The RUBBER AGE

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LARGE ATTENDANCE AT ANNIVERSARY DINNER HELD IN BOSTON ON DEC. 7

Centennial Dinner to Thomas C. Wales and Chas. Goodyear Brings Out Over 225 Members of Rubber Industry—P. L. Palmerton is Principal Speaker

The rubber industry fittingly commemorated the centennial of the founding of the rubber industry in New England at a well-attended dinner held in Boston at the Chamber of Commerce on the evening of Monday, December 7, 1925. Over 225 members of the rubber industry—manufacturers, dealers, salesmen, chemists and others interested in rubber in various ways—helped make the occasion one of historical import in Boston, for this meeting was the first of any consequence to be held in that district in over ten years, or since the Rubber Association of America changed its name and moved to New York.

It was with a sense of gratification, therefore, that the rubber industry in Boston and surrounding territory was able to meet and largely as a result of this dinner, there has been engendered in the minds of a number of leaders of the industry in New England the advisability of a regular dinner every six months or oftener, and the possibility of a formation of a Wales-Goodyear Rubber Club to look after the interests of the trade in that section. That something definite along the line of such a club may be expected was seen in the formation of a committee consisting of D. A. Cutler, Alfred Hale Rubber Co.; J. H. Stedman, Stedman Products Co.; O. P. Hussey, Phillips Rubber Co., and Mr. Coyle, of the Lambert Tire and Rubber Co., to consider the question. The occasion of the dinner was the celebration of the 100th anniversary of the beginnings of the rubber footwear industry in 1825 by Thomas C. Wales and also to honor Charles Goodyear, father of vulcanization. The dinner committee was very successful in getting the members of the rubber industry in the Boston district interested in the dinner and a large number turned out to honor Wales and Goodyear. Quincy Tucker, the original sponsor of the dinner, was Chairmen of Committees.

P. L. Palmerton, Chief of the Rubber Division of the U.S. Department of Commerce was the principal speaker with

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N. Y. RUBBER EXCHANGE LEASES GROUND FLOOR

G. E. Perry, secretary of the Rubber Exchange of New York, Inc., recently announced that the ground floor of the building at 31 South William St., had been leased. As soon as telephone and telegraph equipment and a trading ring have been installed, the exchange will be ready for operation.

Meanwhile committees will prepare necessary provisions covering commissions and brokerage, regulations for daily fluctuations, standard contract, etc. At the same time, the Rubber Exchange Clearing House will be put in readiness for functioning.

It was stated that already over 70 of the founder members had paid for their seats and that all funds of the exchange are on deposit with the Central Union Trust Co., 80 Broadway. The by-laws and the charter have been put in permanent form and are in the hands of the printer. A meeting will be held in the near future for the purpose of appointing committees as provided for in the by-laws.

COCOA EXCHANGE VOTES TO TRADE IN RUBBER

By an unanimous vote the members of the New York Cocoa Exchange on December 10 ratified amendments to the by-laws for the purpose of trading in crude rubber and rubber futures. On the announcement of the vote, the board of managers of the exchange at once authorized the secretary to have another trading ring built on the floor and to make such other changes in the trading room as would be necessary to provide full facilities for rubber trading.

In a statement issued by the exchange it was said that everything will be in readiness early in 1926 for trading. The contract to be used will be submitted for final approval shortly. A new name will be adopted. It will either be the New York Cocoa & Rubber Exchange or the

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LARGE ATTENDANCE AT BOSTON RUBBER DINNER

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other addresses made by D. A. Cutler, President of the Alfred Hale Rubber Co.; Quincy Tucker; Day Baker, President of the Massachusetts Auto Dealers and Garage Association, who also acted as Toastmaster; James H. Stedman, President of the Stedman Products Co.; W. F. Williams, Commissioner of Public Works of the State; Arthur Corbett; D. E. Burchell and Mr. Burchell of the Chamber of Commerce of Boston.

Previous to the dinner an interesting talk on latex was given by S. B. Neiley of the Latex Research Corp., 711 Chamber of Commerce Building, Boston, Mass., in which a resume of the history and development of latex was given. Mr. Neiley said in part:

Abstract of Mr. Neiley's Address

"Liquid latex was first used in England in May, 1825, 50 years before Wickham brought Hevea seeds from Brazil. In 1905, Lucien P. T. Morisse obtained an English patent on the preparation of lactiferous juices. Since that time there has been a rapid growth in the use of latex. It has been suggested for almost every conceivable use, including: Deposition on cloth by electrolysis; as a fruit coating; to control the consistency of rubber being milled; as a cement in the shoe industry; for the manufacture of waterproof matches; as a binder in glazed paper finishing; and in tire manufacturing for the impregnation of the cords.

"Fluid latex is destined to play a revolutionary role in the rubber industry. After a hundred years we are still standing on the threshold of the door opened by Thomas Hancock when he suggested making soles for shoes from latex."

(Mr. Neiley's complete address will be found on page 201 of this issue.)

During the dinner a number of well-known songs were sung by Mr. Kidder of the Stedman Products Co. Mr. Kidder is the possessor of a wonderful baritone voice and his rendition of the old favorites was very well received. In addition to the singing the diners heard the strains of the new organ installed in the Chamber of Commerce Banquet Hall. Another feature of interest was the actual demonstration of the method used early in the 19th century in the manufacture of footwear. This exhibit was handled by S. B. Neiley and R. Day of the Latex Research Corporation and included means of dipping a shoe last in latex and coagulating each layer over smoke produced by burning creosote.

Mr. Tucker's Remarks

In Mr. Tucker's opening remarks he gave the occasion of the dinner and added that in view of the present poverty of Sir Henry Wickam, a fund of some kind should be collected and presented to Wickham in recognition of his foresight and energy in obtaining rubber seeds from Brazil and thus giving the plantation rubber its successful start.

The Toastmaster, Mr. Day Baker, who is known to the rubber industry as a result of his connection with the agitation for rubber paving in Boston at the time of the laying of the experimental stretch of paving on the Northern Ave. Bridge in the city in 1924, reviewed the progress of rubber paving in general by saying that his interest was aroused several years ago when on a trip to London he learned of a section of paving which was laid in 1870 with the cooperation of Mr. MacIntosh and which was still in use. This paving was laid in slabs about 4 by 8 ft. each over a gravel road. It was Mr. Day's hope that when crude rubber came down in price that rubber manufacturers would again turn their attention to this development for he felt sure that it presented wonderful possibilities.

Palmerton Urges Economy

After the address of welcome by Mr. Burchell of the Chamber of Commerce, Mr. Palmerton was introduced by Mr. Sweetser of the Boston Office of the Department of Commerce. Mr. Palmerton spoke of the crude rubber situation on which he had a number of interesting suggestions to make. After tracing the beginnings of the rubber footwear industry in Brazil, Canada and Germany he told how many other articles were made after Goodyear discovered the principle of vulcanization. In talking of crude rubber prices he gave the history of wild and plantation rubber and the details of the beginning of restriction in 1922. He discussed the higher prices of tires based on higher prices of crude and added that with the advent of balloon tires there looms the possibility of a real shortage in the next few years.

Mr. Palmerton continued by stating that the present situation may be alleviated by the following means:

1. Conservation of rubber goods by users.
2. Greater use of substitutes such as reclaimed rubber.
3. Increase output of wild rubber.

"Future relief, however, can only come from more planting. British authorities have estimated that from 1 to 1½ million acres of additional planting are necessary," continued Mr. Palmerton. "In regard to rubber manufacturers growing

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Greetings!

The Editors of THE RUBBER AGE desire to take this means of thanking our many readers and advertisers for the excellent support given our efforts during 1925. We point with particular pride to the large increase in circulation and the increased number of companies in the industry who are taking advantage of our advertising pages.

THE RUBBER AGE wishes its readers, its advertisers and the rubber industry in general a very Merry Christmas and a New Year full of Health, Happiness and Prosperity.

100th Anniversary Dinner of the Founding of the Rubber Industry Held in Boston Dec. 7

RUBBER ASSOCIATION TO VOTE ON IMPORTANT CHANGES TO BY-LAWS

Members to Vote at Annual Meeting Jan. 11 on Proposal to Change Status of Reclaimers, Crude Rubber Importers, Dealers and Brokers to Affiliated Membership

In its notice of the Eleventh Annual Meeting to be held in the West Ball Room of the Hotel Commodore, New York, at 10:30 a.m., January 11, the Rubber Association told of two important changes in the constitution and by-laws that have been proposed by the board of directors.

The effect of the proposed changes in the By-Laws set forth in the following is, briefly: To remove crude rubber importers, dealers and brokers, and those firms, corporations or individuals in either the United States or Canada who are engaged only in the manufacture of reclaimed rubber from the firm membership class and to carry them hereafter as affiliated members, whose participation in Association affairs is limited by certain provisions of the constitution and by-laws; To require the nominating committee to submit only as many nominees as there are directors to be elected, instead of twice as many, and to provide for other nominations from the floor at the annual meeting, instead of requiring a petition to be signed by twenty members and distributed fifteen days before the annual meeting.

The regular terms of the following named directors expire with the annual meeting in January, 1926: Messrs. William E. Bruyn, Littlejohn & Co., Inc.; George B. Dryden, Dryden Rubber Co.; H. Stuart Hotchkiss, General Rubber Co.; W. O. Rutherford, The B. F. Goodrich Co.; Charles E. Stokes, Home Rubber Co.

The Nominees

The committee on nominations, consisting of E. C. Hood, G. B. Hodgman, B. G. Work, H. E. Sawyer and H. T. Dunn, has submitted the names of the following ten firm members as nominees, five of whom are to be elected at the annual meeting:

J. M. Alderfer, president, India Tire & Rubber Co., Mogadore, Ohio;
G. W. Daum, vice president and general manager, Pennsylvania Rubber Co., Jeannette, Pa.;
George B. Dryden, president, Dryden Rubber Co., 1014 So. Kildare Ave., Chicago, Ill.;
E. B. Germain, president, Dunlop Tire & Rubber Corp., Buffalo, N. Y.;
John A. Lambert, treasurer and general manager, Acme Rubber Mfg. Co., Trenton, N. J.;
J. C. Lawrence, president, Faultless Rubber Co., Ashland, Ohio;
A. B. Newhall, vice president, Hood Rubber Co., Watertown, Mass.;
William O'Neil, president, General Tire & Rubber Co., Akron, Ohio;
W. O. Rutherford, vice president, The B. F. Goodrich Co., Akron, Ohio;
G. W. Stephens, vice president, Mansfield Tire & Rubber Co., Mansfield, Ohio.

In the event of the inability of any firm member to attend this important meeting, the use of a signed proxy is urged. The Rubber Association requests that members use the proxy that has been mailed, if necessary, delegating the authority to the general manager of the Association or to some other representative to vote for them. The only proxies which may be counted are those which are accompanied by definite instructions as to the nominees for which the vote represented by the proxy shall be cast.

REVIEW OF 1925 AND PROSPECTS FOR 1926

In the January 10 issue of THE RUBBER AGE we shall present the views of a number of leading rubber executives which will touch on the happenings in the rubber industry during 1925, and the probable trend for 1926. This feature will be well worth reading. Don't fail to look for it.—The Editor.

Canadian Tire Men Meet

Representatives of tire manufacturers and jobbers in Western Canada recently held a meeting in Saskatoon. They agreed that there would be no price cutting in 1926.

Supply and Demand
vs.
Quality

The law of supply and demand has seldom operated with more force than it does today in the Rubber Industry.

The demand for Reclaimed Rubber has grown to the point of straining production capacity.

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FIRESTONE DECLARES $1.00 EXTRA DIVIDEND

Directors of the Firestone Tire & Rubber Co., on December 15, declared an extra dividend, upon recommendation of President H. S. Firestone, of $1 on common stock, placing the junior issue on a basis equivalent to 7 per cent.

"This recommendation came," Mr. Firestone said, "in view of the very prosperous past year and of the splendid prospects for 1926." The announcement was greeted with applause by the 2,200 stockholders of the Firestone office and factory. All work was suspended during the meeting. The factory was practicaly shut down. It was the annual meeting of stockholders and the twenty-fifth anniversary gathering brought out a record number of employees to hear the president's speech.

The directors have decided to set aside $10,000,000 of 7 per cent preferred stock to face the hazards and speculative conditions of the crude rubber market, he said.

Harris Creech, president of the Cleveland Trust Company, is the only new director elected. He succeeds the late Dr. L. E. Sisler. Other directors re-elected are: H. S. Firestone, J. W. Thomas, S. G. Carkhuff, C. A. Meyers, H. S. Firestone, Jr., and J. J. Shea.

"In 1924," Mr. Firestone said, "our capital and surplus was $53,587,430; our sales, $85,600,000; our profits, $8,116,668. This year we have a capital and surplus of $60,680,641, sales of $125,000,000 and a profit of $12,800,000.'

Mr. Firestone said the number of employees increased from 7,000 to 10,000 during 1925, and that an unusually low turnover indicated stability and satisfaction.

National Aniline— Grasselli Suit Postponed 3 Weeks

NEW YORK, Dec. 18, 1925

Just as this issue was going to press we learned of the postponement of the Grasselli-National Aniline suit on the Hoffman-Gottlieb patents from Dec. 21 to the second week in January. This change was found necessary by the Judge, who was to sit in the case, and it will be tried by another Judge at the trial in January.

PRODUCE EXCHANGE MAY ALSO TRADE IN RUBBER

It was recently announced by the New York Produce Exchange that its president had been authorized to appoint a committee to consider the advisability of adding trading in rubber futures to the activities of the exchange. At this writing the entire committee has not been selected.

COCOA EXCHANGE VOTES TO TAKE IN RUBBER

(Continued from Page 179)

New York Rubber & Cocoa Exchange. Realizing the importance of the rubber industry in this country and abroad, it was said in the statement, the members of the exchange are prepared, if conditions warrant it, to make rubber the leading factor in trading.

It was also announced that three men identified with the rubber market are to be at once selected to the exchange's board of managers and another is to be its vice president. The sale of memberships is to be confined to persons who are actually engaged in some branch of the rubber trade and industry. The last sale of a Cocoa Exchange membership was at $5,000. A limited number of rubber founder's memberships is to be sold at a materially lower price. After they have been disposed of all seats are to be on a parity and the remaining memberships will be sold on an advancing scale.

Twenty applications for rubber founder's membership on the New York Cocoa Exchange have been received by the committee on memberships, and other applications are being referred to the committee for investigation, Robert Cross, secretary of the exchange, announced recently.

"It is expected the foreign interest in rubber will be as great as it is in cocoa," Mr. Cross said, "and only persons who who are actually engaged in some branch of the rubber trade are eligible."

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RUBBER TRADE ASSOCIATION OF N. Y. HOLDS ANNUAL BANQUET AT ROOSEVELT

Over 200 Crude Rubber Dealers and Brokers Gather at Annual Dinner—Rutherford, Sen. Dill and Con McCole Speakers—Rutherford Sees Crisis in Rubber Industry

NEW YORK, December 17, 1925—Tonight at the Roosevelt Hotel in New York the Rubber Trade Association held its annual banquet and every crude rubber dealer and broker who attended had an enjoyable evening in every respect. According to J. P. Sullivan, Secretary, the number in attendance exceeded last year but due to the fact that this year the dinner was held in a smaller room, the attendance seemed more like double previous records.

The toastmaster of the dinner was F. Pusinelli, vice-president of the association, who presided in place of President Astlett who had not returned from the Coast. The dinner committee consisting of Messrs. Wilson, Peterson and F. R. Henderson is to be congratulated on the excellent preparations made, as is the secretary Mr. Sullivan, who worked hard before and during the dinner hour.

At the speakers' table were Messrs. Chipman, Henderson, Viles, Bruyn, Rutherford, Pusinelli, Senator Dill, Baird, Con McCole, Wilson, Goldsmith and Behr.

Rutherford and Dill Speak

The first speaker of the evening was W. O. Rutherford, President of the Rubber Association of America. Mr. Rutherford in his characteristic way told several interesting stories after which he spoke of the prospects for next year in the automotive and rubber industry. He said that 1925 produced 4,200,000 cars and that sales of rubber products will exceed $1,250,000,000. Despite this increase in sales volume, Mr. Rutherford stated that there is a distinct crisis in the industry at the present time resulting from the greatly increased capital needed to finance purchases of crude rubber at current prices. If this condition is watched carefully and proper attention given to economies, Mr. Rutherford saw no reason for not expecting a banner year during 1926.

The other speaker, Senator C. C. Dill, of Washington spoke on the resources of the United States and showed that although only 6 per cent of the world population is centered here, we use 50 per cent of the electrical power of the world, 50 per cent of the print paper, 40 per cent of the coal, 65 per cent of the iron and steel, 70 per cent of the oil and gas, 90 per cent of the automobiles, thus showing the high standard of living and the high wages enjoyed by American workmen. Sen. Dill advocated removal of taxes on industry and hoped to have it reduced to a minimum in the new tax bill before Congress. A country's resources are its people—not its physical advantages. And to the people therefore must we look for future expansion. In closing, the Senator urged more attention on the part of voters in sending representatives to Washington who are fit for their job, regardless of party affiliations. The other speaker, Con McCole gave a very humorous talk including many stories of the dialect type which were enjoyed by all present.

The following officers were elected at the annual meeting held in November: H. A. Astlett, president; F. Pusinelli, vice-president; R. L. Chipman, treasurer; and J. P. Sullivan, secretary. The new directors to serve three years are W. E. Bruyn, W. H. Stiles, D. D. Halvane and H. F. Tiedeman. E. Stevenson was elected a director to serve until November, 1926.

Hood Plans Two Additions

The Hood Rubber Co., Watertown, Mass., has awarded a contract for the erection of two factory additions and a large office extension at a total cost of $200,000. The new office building will be of fireproof construction throughout.

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IOWA CORD TIRE FILES BANKRUPTCY PETITION

A voluntary petition in bankruptcy was recently filed by the Iowa Cord Tire Co., Des Moines, Iowa. Mylo Lee, president of the company, was appointed receiver by District Judge Meyer. The petition for receivership was filed in answer to a suit for $2,000 brought against the tire company by the Eagle-Pitcher Lead Co.

Property owned by the Iowa Cord Tire Co. is valued at approximately $200,000. There is $200,000 in subscription notes now due the company, it is said. Liabilities are listed as follows: Open accounts, $12,500; taxes, $18,000, and secured claims, $14,000.

"Although the property of the company alone is worth far in excess of the liabilities, in addition to the subscription notes held by the firm, its business is in such a condition to warrant a receivership to collect the notes and reorganize the company, Chester Eller, attorney for the Iowa Cord Tire Co. declared. In granting the receivership, Judge Meyer also pointed out that there was no allegation of insolvency in the petition, but that the company was almost without working capital and had obligations that it could not meet immediately.

Boot Process Patented

Charles M. Hannis, Hudson, Mass., was recently granted U. S. Patent No. 1,555,202 covering a process for making rubber boot legs. The method consists in rubber coating a lining by running it through a calender, then frictioning an interlining by running it through a calender. The linings in superposed relation are then run through a calender and formed into a one piece sheet. A rubber sheet is next run onto a roller having an intaglio pattern and the rubber and rubber-coated sheets are then united into a solid sheet and cut into boot legs.

EXECUTIVES TO ATTEND PAN-AMERICAN CONGRESS

Mayor Rybolt of Akron selected a number of rubber company executives to attend the Pan-American Commercial Congress, which was to be held in New York, Dec. 14 to 17. The men chosen included: Harvey S. Firestone, president, Firestone Tire & Rubber C.; Jacob Pfeiffer, president, Miller Rubber Co.; G. M. Stadelman, president, Goodyear Tire & Rubber Co.; F. A. Seiberling, president, Seiberling Rubber Co.; L. D. Brown, treasurer, B. F. Goodrich Co.; and William O'Neil, president, General Tire & Rubber Co.

The biggest question that was slated for discussion at the congress was that of a practical consideration of finance problems in regard to loans and placing of Latin American securities. The establishment of direct trade routes from the United States to commercial capitals of the Americas and the promotion of commerce in imports and exports were also to be carefully considered.

R. T. VANDERBILT ISSUES ATTRACTIVE HANDBOOK

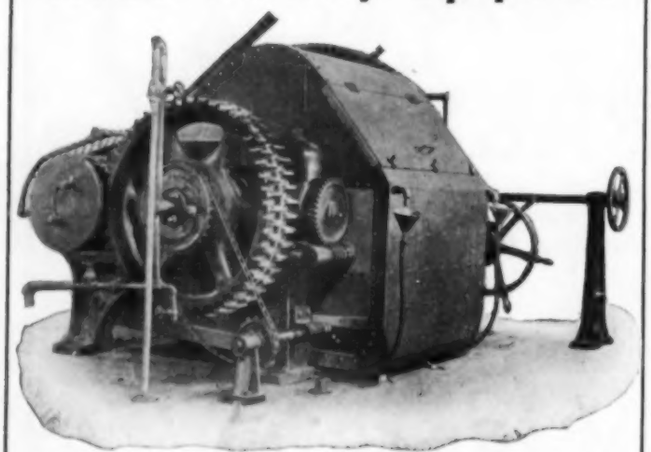
The R. T. Vanderbilt Co., Inc., 50 East 42d St., New York, recently sent out an attractive chemical data handbook. The handbook is of the loose-leaf type with a leather cover which bears the name of the recipient stamped in gold. It contains a description of the various Vanderbilt compounding ingredients and accelerators and a number of general articles on accelerators, rubber milling, plasticity measurements, physical testing, accelerated aging, abrasion testing machines, rubber latex, the electrodeposition of rubber and kindred subjects. Many well-known executives have contributed articles.

Section III of the handbook deals with crude rubber, cubic foot and pound volume cost of reclaimed, specific gravity, etc. The handbook should prove of incalculable benefit to rubber chemists and factory executives.

Accelerator Patented

Adrien Cambron, recently granted U.S. Patent No. 1,562,146 on a rubber accelerator, has assigned the patent to the Roessler & Hasslacher Chemical Co., New York. The patent covers a process for vulcanizing rubber by combining the rubber with a vulcanizing agent and the steam blown reaction product of an aldehyde and an aromatic amine, and vulcanizing the rubber.

Solvent Recovery Equipment



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HOOVER GIVES MEASURES WHICH WOULD AFFORD RELIEF FROM RUBBER SHORTAGE

In Letter to Senator Capper, Secretary of Commerce Says We Are Subject to Full Result of British Monopoly and That We Have No Machinery For Defense

That the shortage and the high price of crude rubber is still occupying the attention of Government officials, is indicated by a letter written December 10, by Herbert Hoover, Secretary of the Department of Commerce, to U.S. Senator Arthur Capper in reply to his request for information on rubber price fixing. In his letter, Mr. Hoover says that the United States at the present time has no machinery to protect itself from the results of the British monopoly, and suggests a number of measures which he confidently believes would ultimately bring relief not only from the action of the rubber monopoly but from other combinations as well.

In an address made by Secretary Hoover on October 31, at Erie, he went into detail on these combinations and their implication in the future of international commerce or good will in the world, and appealed to other nations to abandon these wars upon the United States and other consuming countries, basing that appeal on the interest of the world as a whole.

Secretary Hoover's Letter

The text of Mr. Hoover's letter to Senator Capper follows:

December 10, 1925

The Honorable
Arthur Capper
United States Senate
My Dear Mr. Senator:

I have your letter inquiring as to the present activities of combinations and monopolies to fix prices of our important raw-material imports that have been created or fostered by foreign governments. This matter has become even more urgent than when two years ago you introduced some defensive legislation in support of which I addressed you at the time.

We are now subject to the full result of monopoly action and we have no machinery of adequate defense. It is inherent in all unregulated monopolies everywhere that they never can be content with reasonable returns but must sooner or later undertake extortion. Without traversing the developments in all the ten or twelve combinations now running against us or in those that are in contemplation, I may use the single case of rubber as a sufficient illustration of where these things carry.

The control of rubber production in the British East Indies was organized under the Stevenson plan in 1922. That area produces about 70% of the world's rubber, and we consume about 70% of the world's rubber. At the time the plan was put into effect by Colonial legislation the claim was made that its purpose was to assure a fair price to the growers. The Growers Committee stated that such a fair price would be from fifteen to eighteen pence (30 to 36c) per pound. We were assured that this "fair" price was the sole objective of the combination. Exhaustive investigations of the Department of Commerce into the industry in the East Indies showed that at that price the capital invested in the industry would earn an annual average profit of from 15 to 25 per cent.

The price has been advanced during this year in the following stages, as shown by average New York spot quotations:

MONTHS	CENTS	MONTH	CENTS
January	36.7	July	103.2
February	36.0	August	83.0
March	41.0	September	88.9
April	43.6	October	98.1
May	58.4	November	109.5
June	77.3	December	

The price at one time reached $1.21 per pound.

That the situation is wholly an artificial creation is evidenced by the fact that the normal world consumption of rubber for 1926 is estimated at about 580,000 tons, whereas the potential pro-

(Concluded on Next Page)

1926

As we come into this season of mutual cheer and fellowship, and to the close of a year that has made many new business friends and confirmed the old ones, it is more than a happy privilege to pass along the age-old but ever new salutation — A MERRY CHRISTMAS and A HAPPY NEW YEAR.

We take this opportunity to convey to you this expression of our appreciation and the earnest wish that in the year to come you may enjoy the fullest measure of success and prosperity.

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GIVES MEASURES FOR RELIEF OF SHORTAGE

(Continued from Page 155)

duction if unrestricted would be probably 625,000 tons. We are therefore not in the midst of a genuine rubber famine but purely an artificial one created by restriction on production for the purpose of advancing prices.

Our imports for 1925 will be about 860,000,000 pounds and at normal growth our consumption will be 900,000,000 lbs. in 1926. At the price declared by the price fixing body as "fair" to them, our next year's supply would cost us about $324,000,000, but at the present price of $1.10 per lb., it will cost us about $990,000,000 or $666,000,000 in excess of the "fair" price.

What High Prices Mean

These increased prices of rubber are a very real thing to every family in the United States. The price over and above the so-called "fair" price means an increased charge of probably $20 or $30 for each set of tires on a light automobile, and $50 to $70 for each set on a heavy car.

I may mention that if present prices are maintained against us, the excess sum of $650,000,000 or $700,000,000 which we shall pay is equal to more than twice the net earnings for dividends on all our electric power companies, or equal to 30% more than the net earnings for dividends of all our railways. It would seem, therefore, to be worth some attention.

The dangers to our manufacturing industry that may come through a collapse in the price are so great that some of the smaller manufacturers have ceased production as they fear they could not stand the loss of suddenly diminishing inventory values.

I have referred at length to the case of rubber merely by way of illustration. Coffee could be similarly used. All of these combinations are potentially dangerous.

The problem we have to confront is a most pertinent one. What can we do to defend ourselves against trade war being made upon us?

The measures that we can take, of course, vary with each combination. I do not wish to favor trade reprisals. Some of the following measures would ultimately afford relief if we had them organized, and all are wholly defensive in nature:

1. Our bankers can be discouraged from giving American credits to the support of these combinations.
2. We should initiate a strong systematic campaign for voluntary saving in use in every one of the commodities where these combinations become extortionate.
3. We should stimulate the manufacture and use of substitutes.
4. We should stimulate production in countries where the commodities in question are not likely to be subject to such combinations.
5. We might set up some sort of properly controlled machinery for emergencies which would prevent our many hundred buyers from bidding against each other.

Yours faithfully,
Herbert Hoover

Disagrees with Hoover

Representative Cordell Hull, Democrat, of Tennessee, in introducing in the House on December 14 a resolution suggesting an immediate revision of the tariff downward and the establishment of a permanent international trade organization to promote fair and friendly trade relations among nations, referred to Mr. Hoover's letter.

"Secretary Hoover," said Mr. Hull, "recently declaimed against the outrageous practices in the case of rubber and coffee as dangerous, and against world interest and progress, and hinted at methods of retaliation. The proposed international trade agreement organization as a part of its functions would recognize, anticipate, deal with and avoid such manifestly unfair practices in advance of their injurious operation by urging, and in most cases securing, the permanent abandonment of vicious governmental cooperation in aid of such practices. This method is far superior to retaliation and trade wars."

When Mr. Hoover's letter reached England it aroused great indignation by rubber dealers, and as usual the blame for the present crude rubber situation was laid at the feet of importers who had not the foresight to contract for supplies while the price was low.

STOCKHOLDERS TO VOTE ON DISSOLUTION PLAN

A special meeting of the stockholders of the Intercontinental Rubber Co., Jersey City, N.J., has been called for Jan. 5, to vote upon a plan calling for the dissolution of the holding company. The Intercontinental Rubber Co. owns all of the outstanding stock of the Intercontinental Rubber Products Corp.

The proposed plan provides for the sale of the assets of the holding company to Intercontinental Rubber Products Corp. The terms provide for the holder of 100 shares of stock of the holding company receiving 100 shares of stock of the operating company and $150 in cash, or 108 shares of stock and $70 in cash. Elimination of the holding company, it was stated, would simplify operating conditions. If the plan is approved the name of the International Rubber Products Corp. will be changed to the Intercontinental Rubber Co.

The objects of the plan are to reduce corporate expenses and taxes by eliminating one holding company which is no longer necessary, and at the same time consolidate and simplify the situation where each of the two companies has a different basis for capitalizing substantially the same assets.

NEW ENGLAND SOUTHERN MILLS

MANUFACTURERS OF TIRE FABRICS

This group of Mills is thoroughly equipped to produce coarse builders, breakers and chafers in all grades of cotton, in yarn numbers ranging from 4's to 30's in order to meet the demand for coarser yarns and lower cost fabrics.

LAWRENCE & CO., SELLING AGENTS

89 Franklin St., Boston **24 Thomas St., New York**

INTERNATIONAL PULP CO., *41 Park Row, New York, N. Y.*

SOLE PRODUCERS OF PURE **ASBESTINE** SPECIALLY PREPARED FOR USE IN RUBBER

Covered and Protected by Letters Patent Registered at U. S. Patent Office, Washington, D. C.

LIBERAL WORKING SAMPLE FURNISHED FREE

FIRESTONE CONCESSION IN LIBERIA EXPECTED TO EXPAND GENERAL TRADE

Past Five Years Witnessed Noticeable Change in Business Conditions—German System of Barter Conspicuous —Coffee Big Export—Finances in Good Shape

The commercial development of Liberia appears to be on the verge of a rapid and extensive expansion following the Government grant of a 99-year concession on one million acres to an American rubber company, according to the European Division of the Department of Commerce. The development of this concession would materially enhance the value of this 40,000-square-mile republic on the west coast of Africa, with its population of about 2,000,000.

Germany held first place in foreign trade with Liberia during the first six months of 1925, followed in order by England, Holland, and the United States. The year 1924 saw the same order, with United States' trade considerably smaller, while 1920 found England holding the leading place with a large margin over the United States, runner-up.

However, during the last five years there has been a noticeable change in business conditions. Trade returns and bank turnover indicate a distinct improvement. The only feasible scheme for trading with the natives who can turn over raw materials is on the old German system of barter. At the outbreak of the war German commercial agents outnumbered any others. They are again assuming the principal role and follow the system of commissary stores for bartering. However, as roads for light trucks are being built, large sections abounding in raw materials are becoming accessible. There are six or seven fairly large rivers that form a cheap system of transportation.

Imports and Exports

Although the trade balance is still slightly unfavorable, there are many articles crossing the boundaries into adjacent territory whose value is not included in the official figures. Total imports in 1920 were $1,922,291, but they decreased until in 1924 they were $1,319,719. Exports, on the other hand, increased from $1,123,782 in 1920 to $1,303,722 in 1924, continuing the trend through the first half of 1925, when they totaled $888,877. No statistics of imports in 1925 are yet available, but if the tendency of recent years continues, a favorable balance should be reached. This movement is encouraging proof that the country is nearing economic recovery.

The economic life of Liberia depends upon its ability to sell raw products in world markets. One of the leading exports is coffee, which has always held a high position because of its quality; but transplantation to other areas where the quality was not maintained has slightly affected the market for real Liberian coffee. Piassava, also one of Liberia's main resources, has been meeting keen competition during and since the war, but greater care in selection and preparation of the fiber is strengthening its position on the market. The third staple product is palm kernels, and increased exports are anticipated with improved transportation.

An outstanding feature in the comparison of exports for 1920 and the first half of 1925 (figures for 1924 are not available) is the rise in importance of coffee from third place to first, and this was accompanied by a general expansion in all other exports except palm kernels and ivory. According to the last detailed statistics of imports, apparel and piece goods accounted for 37 per cent of the total; foodstuffs, 18 per cent; hardware, including building materials and other ironware, 8½ per cent; tobacco, 7 per cent; alcoholic beverages, 7 per cent; while the remaining 22½ per cent included non-alcoholic beverages, arms and ammunition, and miscellaneous articles such as empty bags for produce, boats, books, medicines, enamel ware, kerosene,

(Concluded on Next Page)

CABARRUS COTTON MILLS
M. L. CANNON
PRESIDENT & TREASURER
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Superior Quality Tire Fabrics
EGYPTIAN-PEELER
KARDED & COMBED
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Representative

EXPECTS DIFFICULTY IN SIMPLIFYING TIRE SIZES

William O'Neil, president of the General Tire & Rubber Co., feels that it is an open question whether the number of tire sizes now in use will be greatly reduced. He approves the move toward simplification but claims that many difficulties beset the way. "The present agitation for simplification of tire sizes is an excellent thing," he says. "But I wonder if the public realizes the difficulties that confront the tire man when he approaches simplification. Some progress was made toward fewer sizes a few years ago; then the balloon tire appeared, which multiplied sizes rapidly and had much to do with the higher price of crude rubber.

Tendency in Opposite Direction

"It is a question whether successful dealers will be able to carry smaller stocks. The tendency is in the other direction.

"A majority of dealers at the recent National Tire Dealers' Association convention were strongly for simplification. Yet practically every tire manufacturer has frequent requests from his dealers for the manufacture of new sizes which would 'go big' in particular localities. Wherever a real demand for a new size can be demonstrated it is safe to say the manufacturer will make it.

"Car makers create most of the sizes today. The tire manufacturer merely marches along, and makes his product as a part of a car, the weight and engineering peculiarities of which have already been established—even to the tire size—by some one else. Our own company's interest is in the consumer trade, as we do not compete for car manufacturers' business.

"Abolition of a number of tire sizes now would bring hardship to hundreds of thousands of car owners. For instance, Cadillacs of various vintages are running on the following sizes: 36x4½, 37x5, 33x5, 35x5 in the high pressure type and 35x6.75 in the balloon. Until those cars wear out some one will make tires for them and some dealer carry them in stock. The story is the same with many other makes of cars.

Car Manufacturers Should Help

"It is nearly seven years since Ford stopped turning out machines rimmed for the 30x3 clincher, yet there is still a very brisk sale for the 30x3 throughout the Country. We would certainly welcome arrival of a time when car manufacturers' engineers would consult each other and arrive at some understanding about mutual standards, and then consult tire manufacturers about the size and strength—instead of merely the price—of the tires. But thus far it appears to us that car makers enjoy as great a state of rivalry and lack of cooperation as tire manufacturers themselves.

"The present special cry for simplification is based of course on the 1925 advances in tire prices and the high price of crude rubber, which it is sought to conserve. A careful survey justifies the prophecy that simplification cannot be accomplished until car manufacturers get much closer together than they have ever done, so that they will agree in their engineering departments on a few standards in gearing and car weights. Then they must let the tire manufacturers tell them something about tires beside the price. After that it will require from five to ten years for the orphan-tired cars to disappear from the roads. And by that time it is hoped that the rubber situation will have been taken care of in another way, by the production of plentiful supplies of crude at less than half the present price, on new plantations and extensions of old ones in many parts of the world."

M-R Wall Sheet Issued

The Mitchell-Rand Mfg. Co., New York, has just prepared a novel wall sheet of the tables most frequently used in both electrical and machine shops. Tables of inch equivalents, copper wire and similar data, have been separately printed in many forms for shop reference, but a single chart containing all of the tables in general use is indeed unique.

When the thought of preparing this chart came to A. W. Stringham, technical engineer, he selected a number of tables which he submitted to the heads of thirty manufacturing plants as well as to several mechanical and engineering colleges. Every table that received four or more "votes" was adopted.

Through the cooperation of the Cleveland Twist Drill Co. a table on tap drill sizes was compiled; this table covers taps in common use between sizes 0-80 and 1"-14, inclusive, gives size of drills recommended by the National Screw Thread Commission, also "nearest other drills," in each case specifying the "per cent full thread of nut."

The U. S. Bureau of Standards supplied data for the copper wire card and allowable carrying capacities for copper wire. The dimensions of twist drills and machine screws and other shop helps have heretofore been available only after search through technical publications.

The M-R wall sheet is printed in colors on heavy washable paper and is metal bound.

Inasmuch as the primary purpose of the wall sheet is to keep the name of the Mitchell-Rand Mfg. Co. before the users of insulating materials, compounds and similar M-R products, it will be sent free only to such concerns, and application should be made on business letterhead. Address Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.

Patent Rubber Book Cover

U.S. Patent No. 1,561,638 was recently granted to Orby Bertram Crowell, assignor to the Canadian I.T.S. Rubber Co., Ltd., Toronto, Canada, on a rubber book cover. The cover is formed of a molded sheet of flexible rubber material having a portion of the cross sectional area of a reduced thickness to produce a portion of a greater flexibility than the main body to form a hinge.

FIRESTONE CONCESSION TO AID LIBERIAN TRADE

(Continued from Page 187)

soap, paints, jewelry, toys, leather goods, etc.

The present tariff of Liberia was passed in 1923 and was designed almost entirely for revenue purposes. In general, all imported goods are subject to a duty of 15 per cent ad valorem, with the exception of about one hundred articles with specific duties and about forty which are entered free of duty. The Act of 1923 also placed an export tariff on fiber, ivory, cola nuts, palm kernels, palm oil, and all mining products. Shipping is largely in the hands of the British who handle 41 per cent; Germans, 28 per cent; and the Dutch, 16 per cent; while the Spanish, Americans, French, and Italians handle most of the remainder.

Finances in Good Shape

The finances of the country have been in good shape during post war years, with a surplus of revenue over expenditure each year, except in 1922-23 when a slight deficit occurred. The total revenue in 1919-20 was $551,121 and expenditures, $480,331, leaving a surplus of $70,790. In 1923-24 revenue equaled $380,078, and expenditures, $371,652, with a surplus of $8,426. On September 30, 1924, the total debt of Liberia was about $2,150,000.

RIMS APPROVED BY THE TIRE & RIM ASSOCIATION

Size	Nov. 1925 Number	Pct.	Nov. 1924 Number	Pct.	11 Mos. 1925 Number	Pct.
Clin.						
24x3	2,291	0.1	2,050	0.1	14,380	0.1
26x3	6,653	0.3	5,366	0.4	87,367	0.4
28x3	1,191	0.1	279	0.0	4,057	0.0
30x3	....	..	24,824	1.8	212,043	0.9
30x3½	496,973	22.4	736,218	52.5	4,682,841	19.2
31x4	23,049	1.1	3,102	0.2	613,583	2.5
S.S.						
25x3½	00	..	....	..	460	0.0
27x3½	201	0.0	....	..	2,783	0.0
28x3½	990,160	45.1	96,136	6.5	8,018,392	32.9
29x3½	....	..	216	0.0	144,390	0.6
30x3½	21,352	1.0	56,613	4.0	587,074	2.4
32x3½	1,556	0.1	1,771	0.1	26,514	0.1
28x4	148,281	6.7	112,431	7.2	2,810,998	11.5
29x4	129,815	5.9	22,735	2.0	1,522,898	6.2
30x4	213	0.0	33,199	2.3	289,753	1.2
31x4	....	..	533	0.0	1,515	0.0
32x4	26,516	1.2	16,845	1.2	288,921	1.2
33x4	1,581	0.1	495	0.0	26,198	0.1
34x4	....	..	....	..	759	0.0
29x4½	7,898	0.4	9,685	0.7	487,560	2.0
30x4½	125,328	5.7	71,819	5.0	1,549,360	6.2
31x4½	00	..	32,379	2.3	247,481	1.0
32x4½	38,754	1.8	85,778	6.0	594,421	2.4
33x4½	....	..	....	..	1,854	0.0
34x4½	1 464	0.1	670	0.0	91,490	0.4
36x4½	....	..	....	..	154	0.0
20x5	30,570	1.3	61,980	4.4	370,781	1.5
31x5	15,371	0.7	28,799	2.0	441,248	1.8
33x6	22,115	1.0	....	..	90,646	0.4
Truck						
30x5	66,307	3.0	(See Note)		798,951	3.3
34x5	9,635	0.5	11,852	0.8	102,287	0.4
32x6	14,512	0.7	2,185	0.2	149,387	0.6
36x6	10,335	0.5	2,672	0.2	73,264	0.3
34x7	1,315	0.1	434	0.0	22,612	0.1
38x7	1,380	0.1	432	0.0	8,591	0.0
36x8	808	0.0	402	0.0	10,707	0.0
40x8	1,857	0.1	837	0.1	13,050	0.1
40x10	196	0.0	....	..	802	0.0
44x10	147	0.0	....	..	718	0.0
	2,197,825		1,422,737		24,390,290	
Motorcycle		0.5%		0.5%		0.5%
Clincher		23.5%		54.5%		22.6%
Balloon		66.8%		30.2%		65.3%
Regular S.S.		4.4%		11.3%		6.8%
Truck 20"		3.8%		2.4%		4.0%
Truck 24"		1.2%		1.1%		0.8%

NOTE: 30x5 rims not divided in 1924.

RUBBER GOODS EXPORTS CONTINUED AT HIGH LEVEL DURING OCTOBER

Total of $4,956,309, Although Slightly Less than August and September, is Far Above Average for Preceeding Months—Smaller Number of Casings Exported

The total foreign shipments of rubber manufactures from the United States in October were valued at $4,956,309, and though slightly less than in August and September, were above the average for preceeding months. Higher prices played a considerable part in keeping the total value up in October, each class of tires having a higher average unit value than for the preceeding month. The quantity of tire exports was less than the average for this year, but new high records for monthly exports were recorded for solid tiring, rubber packing, and reclaimed rubber, while shipments of rubber thread and water bottles and fountain syringes were higher than for any other month this year.

The number of automobile casings exported to foreign countries in October was 129,368, as compared to 155,594 in September, and 167,679 in August. The average declared value per casing in October was $14.94, as compared to $13.98 in September, $13.09 in August, and $11.98 in July, the price increase having averaged $1.00 per tire in each of the past three months. There were also increases in the average prices of inner tubes and solid tires, and tire repair materials averaged 51 cents a pound, as compared to 45 cents in September. Some of the leading markets for automobile casings in October were United Kingdom, 15,601; Argentina, 13,926; Japan, 10,659; Australia, 10,656; Cuba, 8,543; Brazil, 7,899; Philippine Islands, 6,631; British India, 6,003; and New Zealand, 4,526.

Reclaimed Exports High

October exports of solid rubber tiring for carriages, rickshas, etc., amounted to 267,567 pounds valued at $75,821, establishing a new record for the monthly shipments of this commodity, the previous record being 209,495 pounds in September, 1925. Rubber packing exports totaled 207,138 pounds in October, the previous record month being August, 1925, with 202,463 pounds. Reclaimed rubber exports in October were 1,167,674 pounds, superseding the previous record of 1,136,492 pounds established in August. The value per pound of reclaimed rubber exports in October was $0.1313, over 2 cents per pound higher than for any other month this year. The foreign demand for reclaimed rubber is steadily increasing.

Exports of rubber footwear this fall are following a different trend from last year. In the July-October four-months' period of 1924, the exports consisted of about 295,000 pairs of rubber boots, 1,020,000 pairs of rubbers and overshoes, and 1,198,000 pairs of canvas rubber-soled shoes, while during the corresponding four-months of 1925, the exports were about 398,000 pairs of rubber boots, 586,000 pairs of rubbers and overshoes' and 1,494,000 pairs of canvas rubber-soled shoes. Exports of rubber boots and canvas rubber-soled shoes are much heavier than in the corresponding period of 1924, while exports of rubbers and overshoes have declined.

Exports of rubber belting in October, 282,926 pounds, were lower than for any other month since February. This is, however, balanced by large export shipments of rubber belting from American branch factories in Canada in October, over 166,000 pounds as compared to an average of about 85,000 pounds for the two preceding months. American exports of mechanical rubber goods bid fair to establish new records this year, trade increases having occurred in rubber belting, hose, and packing.

(Concluded on Page 190)

Perfect Beads

Entire freedom from bead trouble in the construction of straight side tires is assured by the use of either National "(Patent)" High Tensile Strength, Flat Woven, Bead Braid or our new (Pratt Patent) Bead Cables. These cables, made to dimensions specified, have seven strands, yet only one piece of wire is used without soldered, welded or brazed joint.

Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

Our engineering department tests beads and furnishes complete confidential reports as to their stretch, set and bursting point, without charge. Inquiries solicited regarding this special service.

National Standard Company
Niles, Michigan

DOVAN

with DIPHENYL-GUANIDINE

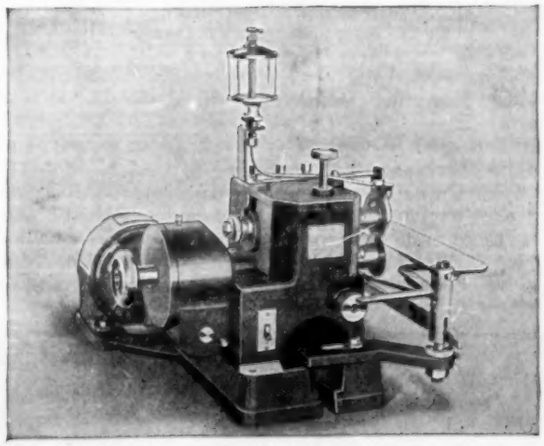
your rubber stocks follow the curve of quality. This famous accelerator was first in the field - and still first in results.

DOVAN CHEMICAL CORPORATION
30 CHURCH STREET NEW YORK CITY

REPRESENTED BY

J. A. Kendall, Akron, Ohio; J. E. Odell, Boston, Mass.; American Oil & Supply Co., Trenton, N. J.; T. E. O'Reilly, Ltd., Toronto and Montreal; Martin, Hoyt and Milne, San Francisco and Los Angeles; Buckleton & Co., Ltd., 13 Rumford St., Liverpool, England.

TRIMMING



Electric Type Model DE

MACHINERY

Designed to trim Heels, Soles and Mechanical Rubber Goods. Absolutely dependable in action. Extremely easy to operate.
CATALOGUE ON REQUEST.

Sold Exclusively By

ARTHUR JACKSON WILLS CO.

Established 1915

NORTH BROOKFIELD MASS., U. S. A.
Cable Address "WILTRIM"

LARGE ATTENDANCE AT BOSTON RUBBER DINNER

(Continued from Page 180)

their own rubber, he stated that the time has arrived for manufacturers to feel the responsibility for procuring their own supplies either by individual or collective action."

(Mr. Palmerton's complete address will be found on page 198 of this issue.)

W. F. Williams, Commissioner of Public Works then spoke on the state highway and gave a number of ways in which the rubber industry might assist in securing the proper legislation to secure better and wider highways. He recommended a campaign to teach proper methods of applying brakes, and urged the development of a non-skid tread for tires, which would actually prevent skidding.

Makes Plea for Wickham

Following Mr. Williams, Mr. Tucker presented some interesting information on Wales and Goodyear and then urged consideration of the plight of Wickham who he stated was living on about $800 a year amid surroundings of poverty. Mr. Stedman then briefly touched on the use of reclaimed rubber, rubber roads and the lack of thinking among New England rubber manufacturers. He stated that though Akron had taken a lot of rubber brains from New England, this section could not compete in quantity with western manufacturers, but it could still compete in quality. In regard to rubber flooring Mr. Stedman stated his concern had produced over 7,000,000 sq. ft. and the surface of this market had hardly been scratched. "Let's get together every six months," concluded Mr. Stedman, "so as to get New England back on the map where the rubber industry started."

In his address on "Guayule Rubber", David A. Cutler, president, of the Alfred Hale Rubber Co., said that the shrub which had been growing for centuries on alkaline soil from Texas down through Mexico was considered a nuisance until 1904 when Edward B. Aldrich discovered its possibilities. Mr. Cutler described the method used to separate the rubber from the shrub, and told how in 1919 George H. Carnahan produced a better grade of Guayule, which has filled and will continue to fill an important place in the manufacture of all kinds of rubber goods.

After telling how important it is to develop sources of rubber with American capital, and where possible on the soil of the Americas, Mr. Cutler spoke of the use of Guayule in the manufacture of tires and in hard rubber goods.

(Mr. Cutler's complete address will be found on page 202 of this issue.)

The last feature of the evening was an illustrated slide lecture on South American rubber countries by Quincy Tucker based on a personal investigation a number of years ago.

It was to be regretted that the Rubber Association of America was not represented at this meeting and many of those in attendance at the dinner openly expressed their feelings on this subject.

RUBBER IMPORTS FALL SLIGHTLY IN NOVEMBER

Importations of crude rubber into the United States during November which totaled 33,066 tons, showed a slight decrease when compared with the total of 34,908 tons for the previous month, although they show a large increase compared to November, 1924. The shipments for November, 1924, were only 26,427 tons. According to recent statistics of the Rubber Association, 13,577 tons of plantations were shipped from Singapore; 3,548 from London; 3,356 from Belawan-Deli; 3,250 from Colombo; 2,936 from Penang; 2,329 from Port Swettenham; and 1,170 from Batavia, in addition to smaller shipments of plantations from other ports.

Imports of Africans in November totaled 260 tons, compared with 597 tons in the same month last year. Shipments of centrals and guayule were 1,069 tons, compared with only 404 in November, 1924. Last month 1,629 tons of paras were shipped to the United States, compared to 1,226 tons in November, 1924. Miscellaneous gums shipped totaled 633 tons; waste, 267 tons; balata, 124 tons.

Total importations of plantations for the 11 months ended Nov. 30, were 320,760 tons, compared with 272,460 in the same period of 1924. Total shipments of all rubbers were 345,318, compared to 289,678 last year.

Atlantic ports received 32,075 in November, 1925, of which 30,056 came in at New York and 2,019 at Boston. Pacific ports received 991 tons.

EXPORTS CONTINUED AT HIGH LEVEL IN OCTOBER

(Continued from Page 189)

The trade in rubber sundries and specialties is especially brisk at this season. Over 41,000 water bottles and fountain syringes were exported in October, this being the best month thus far this year. Other druggists' rubber sundries to the value of $111,124 were exported in October. Exports of rubber toys, balls, and balloons were valued at $101,255, and bathing caps at $7,059. The trade in bathing caps is highly seasonal, being much heavier in the first half of the year than in the closing months.

19 Companies Show Gain

Nineteen rubber companies in the Akron district show a sales increase in 1925 over 1924 of more than $109,000,000, according to the Akron Chamber of Commerce.

Total output of the rubber industry here for the year ended Nov. 1, 1925, was $473,556,909, against $364,552,564 in 1924.

The gain in population of the city is accounted for by the fact that 10,000 more workers are now employed in the rubber factories than last year.

Annual pay rolls of the rubber companies increased from $70,197,554 in 1924 to $82,111,477 this year.

GOODYEAR TO FLOAT A $15,000,000 NOTE ISSUE

A $15,000,000 note issue of the Goodyear Tire & Rubber Co., Akron, was recently offered by a syndicate headed by Dillon, Read & Co. at a price of 99¼ and interest, to yield about 5.25 per cent. The issue consists of three-year five per cent gold notes. The proceeds will supply the company with additional working capital to meet increased costs of crude rubber. It is redeemable as a whole or in part by lot, after 30 day's notice, at 101 and interest on June 15, 1926, and thereafter on any interest date at 100½ interest.

The new notes will be the direct obligations of the company, ranking equally with its 10-year eight per cent sinking fund gold debenture bonds, of which there were outstanding $21,318,500 on June 30, 1925.

The CARTER BELL MFG CO

CARTER BELL STANDARD SINCE 1898 RUBBER SUBSTITUTES

150 Nassau Street New York

EMBOSSING CALENDERS

For Artificial Leather, Oil Cloth, Carriage and Automobile Covers

DRYING MACHINES

with Copper or tinned iron Cylinders for Cotton Ducks, Drills and Sheetings

The Textile-Finishing Machinery Co.

OFFICE, No. 83 EXCHANGE PLACE

PROVIDENCE, R. I.

To our Customers, our Friends —

To our Associates and Employees —

To All, we express our sincere wishes for

A Happy Christmas
and
A Pleasant and Profitable
New Year.

The Akron Standard Mold Co.
Akron "The Established Measure of Value" Ohio

FIRESTONE SALES GAIN 47 PER CENT IN YEAR

For the year ended October 31, 1925, the Firestone Tire & Rubber Co., Akron, reports sales 47 per cent above the figure for last year, reaching a total of $125,597,998, as compared to $85,610,004 in 1924. Net earning for the year amounted to $12,800,412, which compares with $7,116,689 reported last year. The balance sheet as of October 31, shows total assets of $72,298,535, a gain of almost $14,000,000 in a year.

The surplus of the company is reported at $39,762,281, as against $31,715,320 on October 31, 1924. Cash amounted to $5,470,876, as compared with $4,445,367. The total for property accounts shows an increase of about $2,000,000 during the year. Reserves increased from $1,300,000 to $5,000,000. The figure for inventories increased from $13,831,493 to $21,254,020. The amount written into the surplus account in the year was $11,811,653, as compared with a total of $6,066,935 in 1924.

Balance Sheet, October 31, 1925

	1925	1924
ASSETS		
*Land bldg., mach.	$22,250,449	$20,853,857
Treasury stock	86,953	126,785
Firestone Land Co.	768,143	905,172
Firestone Cotton Mills	843,522	.....
Other investments	3,745,417	3,726,597
Inventories	21,254,020	13,831,493
Cash	5,470,876	4,445,367
Receivables	14,199,843	9,483,161
Emp. stock sub.	3,157,833	5,012,946
Definite charges	521,479	459,238
Total	$72,298,535	$58,844,616
LIABILITIES		
6 p. c. pf. cum. st.	$8,000,000	$8,451,200
7 p. c. cum. pf. st.	8,380,900	8,912,800
Common stock	†3,580,260	3,537,710
Fire-Apsley Co.	957,200	970,400
Accounts payable	3,997,173	3,636,840
Accrd. tax, etc.	2,620,721	320,346
Reserves	5,000,000	1,300,000
Surplus	39,762,281	31,715,320
Total	$72,298,535	$58,844,616

*After depreciation and amortization.
†Par $10.

Foote Exhibits at Power Show

Among the many interesting exhibits at the New York Power Show was a versatile display of speed reduction units by Foote Bros. Gear & Machine Co., Chicago. Besides their standard spur and worm gear reducers, this company exhibited their new vertical worm gear reducer—vertical spur gear reducer and right angle drive spur gear reducer. A combination unit was also shown consisting of a spur and worm gear speed reducer connected together by flexible couplings and driven by a one-quarter hp. motor, all units being mounted on a single bed plate.

Standard Rubber Formed

The Standard Rubber Co., Newark, N. J., was recently incorporated with an authorized capital of $100,000. Incorporators are Homer D. Smith, Leonce L. Picot, and Eva H. Reda. Homer D. Smith, Newark, is also attorney for the new corporation.

C. S. Leslie Moves

Charles S. Leslie, broker in crude rubber and balata, recently moved to 25 Beaver St., New York.

INTERNATIONAL ACQUIRES SURETY TIRE & RUBBER

The International Rubber Co., Poplar Bluff, Mo., organized a little over three months ago to absorb the Poplar Bluff Rubber Co., recently purchased the defunct Surety Tire & Rubber Co. and its factory in Wellston, Mo. The property was valued at $518,000, but it is understood that it was sold for a smaller figure.

The Surety Tire & Rubber Co. went into the hands of receivers in December, 1921. With the acquisition of the new property, it is reported that the Poplar Bluff Rubber Co. will be operated by International as a branch. The International company will specialize in the manufacture of puncture-proof inner tubes. J. H. Dalbey, founder of the Rubber Ace Tire Co., Elgin, Ill., manufacturers of the Rubber Ace, rights for which were purchased early this fall by the B. F. Goodrich Co., Akron, is president of the International Rubber Co. The acquisition of the Wellston factory will give the new firm a capacity of 1,000 tubes a day.

Losch Overland Secretary

M. C. Losch has been appointed secretary of the Overland Trail Rubber Co., Omaha, Neb., to take the place of T. E. Huff, who remains on the board of directors. Mr. Losch was formerly in the cost accounting department. Production of the company is now about 800 tires, with an increase expected January 1.

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INCREASED PRODUCTION IN GERMANY STIMULATING CRUDE RUBBER IMPORTS

Receipts for the Last Nine Months have been Double 1913 Level and Slightly Less than Twice those of Last Year—Boom Caused by Increased Tire Demand

German imports of crude rubber are booming. If receipts continue at the rate reached in the first nine months of this year, total annual importations will amount to about 40,000 metric tons, according to report to the Department of Commerce by Trade Commissioner W. T. Daugherty, Berlin. This is approximately twice the pre-war (1913) level, slightly less than twice 1924 imports and about twice 1923 imports.

The reason for this boom is the stimulus to production of rubber tires in Germany. This follows the increased production of automotive vehicles. It is estimated that rubber tire production accounts for about 70 per cent of consumption of Germany's crude rubber imports. Furthermore there is an increased consumption in rubber specialties, clothing, etc., resulting from the awakened interest in sport.

The German automotive industry, the leading rubber consumer, having had substantial growth in post-war years, has also had safe protection from foreign competition by the import prohibitions, which have kept out foreign manufactures, except in negligible volume. With the recent removal of these import prohibitions, they were replaced by a tariff calculated to protect the industry while it is going over to standardization and mass production. Standardization and mass production, in the American sense of the term, have been unknown there until recently. Now leading German factories are desperately trying to manufacture on the American plan. While this is being effected, a matter of some three or four years of course, the proposed tariff on imports of foreign automobiles is staggered downward. A year's advantage is given the German automotive industry, with a comparatively stiff import duty protection, to develop before the first duty cut is put into effect, on July 1, 1926. Meantime, a number of manufacturers, particularly of the smaller cars, announce that their mass production plans are bearing fruit.

Production Surpassed Expectations

Production in the period from July 1, 1924 to July 1, 1925, probably surpassed expectations. Conservatively considered, it is estimated that if 75,000 to 100,000 units are produced, the German automotive industry, with due respect to its present potentialities, will have done itself well.

In the last year for which figures are available, 1924, the increase of passenger cars was about 32,000, trucks 9,000, and motorcycles, 38,000. Domestic prices were comparatively high during the period and the financial stringency of the German population prevented buying on a large scale. It is to be observed how the cheaper motorcycles gained favor.

Countries of Origin

Countries of origin of Germany's crude rubber imports in the first nine months of 1925 were the Dutch Indies, 12,867 metric tons, or 42 per cent of total imports; British India, 7,016 or 23 per cent, Malacca, 3,985 or 13 per cent, Ceylon, 2,754 or 9 per cent; and Brazil, 2,140 or 7 per cent. Gutta percha and balata imports were of slight significance. Compared with 1913 imports (2,660 tons of both in the calendar year), the rate of importation has fallen off enormously.

It is notable that the United States was the leading country of origin for Germany's imports of rubber, gutta percha and balata waste in the first nine months of 1925 and that this trade is increasing. The United States supplied Germany with 3,894 metric tons, or 48 per cent of total imports, while Great Britain sold 1,957 tons or 24 per cent of the total in this nine-month period. The oil caoutchouc and other rubber substitutes exported went mostly to Austria and Czechoslovakia.

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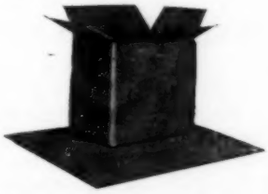

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ISSUE SUPPLEMENTS TO R. & H. RUBBER MANUAL

The Roessler & Hasslacher Chemical Co., manufacturing and importing chemists, 709 Sixth Ave., New York, recently issued supplements to its rubber manual on Tensilac 41 and Diorthotolylguanidine. The supplements may be easily added to the loose-leaf manual to bring the latter up to date. They contain curing charts and other data on the two accelerators.

Stedman Goes to Florida

J. H. Stedman, president of the Stedman Products Co., South Braintree, Mass., left Boston for New York following the 100th Anniversary Dinner on the evening of December 7. He remained in New York several days, and then proceeded to Miami, Fla., on a combination pleasure and business trip. The Stedman company has an office in Miami and it was Mr. Stedman's intention to attend to some pressing affairs connected with the rapidly increasing business of that office. He expected to return before the Christmas holidays.

Herbert E. Smith Promoted

Herbert E. Smith, general sales manager of the United States Rubber Co., has been elected a second vice-president of the company in general charge of sales activities of all products except tires. Mr. Smith succeeds George H. Mayo, retired

Form Wire Cord Tire Corp.

The Wire Cord Tire Corp., New York City, was recently chartered at Albany with an authorized capital of 1,000 shares of no par value. The company will manufacture tires. Incorporators are William R. Crawford, Jr., D. M. Black and Robert H. Scholl, 120 Broadway, New York City.

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EQUIPMENT FOR SALE

FOR SALE: Two size 4 x 13 Southwark Foundry vulcanizers equipped with Tagliabue regulators. Inquire Sterling Tire Corporation, Rutherford, N. J.

RUBBER MALLET WILL SOUND LIBERTY BELL

Through the use of a rubber mallet, the voice of the Liberty Bell will be broadcast by radio for the first time. The event will take place at the moment of midnight on December 31, and has been arranged as part of the ceremony with which Mayor Kendrick desires to signalize the beginning, on January 1, 1926 of America's Sesquicentennial year. Not only will the tones of the old bell be audible to radio listeners in the United States but to those of other countries abroad and in South America, a national and international radio hook-up being now in course of preparation.

The sound of the Liberty bell will be part of the unique ceremony which is now being arranged for New Year's Eve. Mayor Kendrick has transferred the traditional New Year's reception of the Mayor of Philadelphia from its accustomed place in City Hall to Independence Hall and confines of Independence Square. A colorful ceremony has been arranged. The Mayor has directed Chief Maize of the Electrical Bureau to arrange for searchlights to illuminate Independence Hall on Chestnut Street front and with searchlights and flood lights turn the midnight darkness of Independence Square into artificial light.

To Represent Signers

In view of the crowd assembled in Independence Square, actors costumed as the Signers of the Declaration of Independence will walk through the Square from Walnut Street and enter Independence Hall where in the Declaration Chamber they will enact a tableau of the Signing of the Declaration of Independence. This will take place at 10 o'clock. Following this the public will be admitted to Independence Hall without card where the reception given by the Mayor and Mrs. W. Freeland Kendrick assisted by the members of the City Cabinet with their wives will begin at 10 o'clock. At 11:30 o'clock p. m. the radio program will start and Charles B. Hall, president of the Philadelphia Council, will deliver into the microphone a speech on "The Greatness of Philadelphia." Mayor Kendrick will then address the men of the nation and the world on the Sesquicentennial Exposition and celebration. At ten minutes to twelve Mrs. Kendrick will speak over the radio, inviting the women and children of America and other nations to come to Philadelphia for the Exposition on June 1, 1926.

At exactly midnight, Mrs. Kendrick, using a mallet with a head of solid rubber, will begin to tap the Liberty Bell and she will indicate the year 1926 with 1, 9, 2, 6 taps properly spaced.

Mayor Kendrick and city officials have arranged for elaborate precautions so that there may be no fire or other hazard involved to the sacred shrine of American liberty. Mr. Kendrick was especially anxious to determine that no danger to the Liberty Bell would result from its being sounded in this manner. He received recently the reply to his inquiry from Alexander E. Outbridge, Jr. Professor of Metallurgy of Franklin Institute in which Mr. Outerbridge said that since the installation of the mechanical device technically called a "Spider," there is no longer any danger whatever involved in tapping the Bell in the manner contemplated.

Once before the sound of the Liberty Bell had been sent over the country. That was on the occasion when the transcontinental telephone wire was installed. The Bell on the tower of Independence Hall has also been broadcast over radio on several occasions. The Liberty Bell has never previously been broadcast.

DON'T STEAL RUBBER —AT LEAST IN N. Y.

Several months ago we told in these columns how the thieves who had stolen a load of rubber were caught when by a lucky chance several detectives traced a quarter which rolled underneath a garage door, and found there the robber stolen from a barge several days previously.

Now comes a tale of crossed wires. The New York newspapers reported recently the theft of from $15,000 to $85,000 worth of rubber (the amount varying with each newspaper). Several days ago two detectives were talking to each other over the 'phone when they suddenly heard, "You'd better get that truckload of rubber out of that Fourth St. garage. The dicks are getting wise." And the dick *was* wise. He investigated every garage on Fourth St. and finally located the stolen rubber.

So, if there is any rubber to be stolen, steal it somewhere else. Don't try it in New York.

Akron Factories Busy

Akron rubber factories are employing many more men than were employed a year ago at this time, and on Jan. 2 salesmen from all of Akron's larger companies will begin to solicit orders under spring datings. The effect of this recent move, which will end the policy of banning the spring dating practice, will be to increase tire production in the larger factories to 95 per cent of their normal capacity, it is reported. Spring datings will not be extended on the usual terms, it is said. While immediate shipments of future orders probably will be made, the companies do not plan to extend credit beyond April 1 except in cases where some concerns may not ask payment until June 1. Until the present time, the Akron factories have been working on an 80 per cent basis, and little letup in production has been caused by the ban on spring datings agreed upon several months ago.

David H. Ott to Build

The David H. Ott Co., Jackson's Lane, Little Falls, N.J., manufacturers of general rubber products, has plans for a two-story addition to its factory, for which foundations will soon be laid. The addition, which will be 40 by 80 ft., is estimated to cost almost $50,000, with equipment.

DUTCH COMPLETE STUDY OF RUBBER COAGULANTS

A recent report from Batavia, Java, states that the Central Rubber Station has ascertained that by adopting formic acid as a coagulant for rubber latex, the time of vulcanization, tensile strength and slope remain practically unchanged, but the plasticity is slightly increased. The cost of manufacture of rubber crepe and sheets can be reduced by using formic acid instead of acetic acid as a coagulant, and already several rubber estates in the Dutch East Indies have adopted the use of formic acid.

As a rule, the quantity of formic acid required is half of the quantity of acetic acid, and whereas the price of both are about the same, it is obvious that by using formic acid expenses for the coagulating process are reduced almost 50 per cent. It is advisable to add to the latex an equal quantity of the diluted acid as in the process of coagulating by means of acetic acid; however, in the case of formic acid this should be diluted twice as much. The length of time required for drying crepe rubber and smoking sheet rubber is unmodified when using either formic acid or acetic acid; neither was it possible to observe any difference as to liability to mouldiness. Sole crepe prepared with formic acid or acetic acid shows entirely the same properties as to color and hardness.

Mixtures Show No Difference

Mixtures prepared with actic acid and formic acid showed no difference. The durability of the rubber proved to be the same in vulcanized or unvulcanized condition. There appears to be no objection whatever in substituting acetic acid by formic acid; on the contrary it means an economy of no little importance.

As a result of mutual arrangement between the different experimental stations in the Indies, the necessary requirements of formic acid have been temporarily formulated as follows: (a) Content 85 per cent or more. Formic acid with a lower percentage may eventually be accepted with a pro rata rafaction with a limit of 80 per cent when analyzed. (b) Formic acid may not contain any formaldehyde or other injurious substances.

Vanderbilt Secures Patent

R. T. Vanderbilt Co., Inc., New York City, have been assigned U.S. Patent No. 1,558,707, recently granted to Stuart B. Maloney of Wellesley Hills, Mass. This patent covers a process of accelerating the vulcanization of rubber by vulcanization in the presence of thiuramdisulphide.

Pittsburgh Files Schedule

Blaine H. Cochran, receiver for the Pittsburgh Rubber Co., East Palestine, Ohio, recently filed a schedule in the United States District Court which listed liabilities at $18,796.25 and assets at $2,750. The Pittsburgh company took over the factory of the defunct McLean Tire & Rubber Co., operated it about six months and then suspended operations on Sept. 5. The plant has been idle since.

LEADERS DO NOT EXPECT RELIEF FROM HIGH PRCIES BY LIFTING RESTRICTION

Akron Executives do not Believe that Action of British Colonial Office in Lifting all Export Restrictions on February 1, will End Crude Rubber Shortage

In the opinion of executives of rubber manufacturing companies, lifting of all British restrictions on crude rubber will not relieve the world's rubber shortage to any great extent. It was reported from London on December 3 that the Colonial Office had decided to lift export restrictions on rubber from Ceylon and Malaya beginning February 1.

At the present time 85 per cent of British plantation production is being shipped under the Stevenson Plan, and another 10 per cent would have been automatically released February 1, with all 100 per cent exportation allowed three months later.

Rubber company executives generally consider the extra five per cent release as a "diplomatic gesture" to satisfy numerous protests heard from both American and British manufacturing interests. Shortage of labor in the plantation areas and previous restrictive measures, it was stated, will keep down production for many months, regardless of the new British policy.

Leaders in the industry recently made the following statements to representatives of the *Cleveland Plain Dealer:*

Firestone's Statement

Harvey S. Firestone, president of the Firestone Tire & Rubber Co., and prominent in the fight against British restriction—"There will still be a rubber shortage, and America should continue its efforts to secure a new source of supply. The reports from London are conflicting as to the removal of the rubber restriction act. One report is that they will release 15 instead of 10 per cent on February 1, and another 5 per cent, or a total of 100 per cent three months later. If they have simply released an extra 5 per cent or a total additional release of 15 per cent on Feb. 1, making it 100 per cent and still retain the restriction act, it will have little or no effect on the market because there would still be a limitation on many estates, as the maximum production allowed any plantation was set at 400 pounds to the acre. Therefore I look upon the extra 5 per cent release on Feb. 1 as only a gesture in an attempt to satisfy the many protests made by British and American motorists.

"The application and workings of the rubber restriction act have always been difficult to understand. It was called a tax on rubber, but in operation and intention has been a restriction on production with the prime object of increasing the price.

"I can only hope they have removed this restriction act as such action would have a marked effect on the price of rubber in a short time. But even though it should be removed, all statistics show there will continue to be a rubber shortage and America should continue its effort to secure a new source of supply."

P. W. Litchfield, first vice-president of the Goodyear Tire & Rubber Co.—"The releasing of 100 per cent production on Feb. 1, instead of 95 per cent as provided for by the Stevenson act, practically removes all restrictions to the production of crude rubber.

"It will not, however, increase the available supply, as the reported capacity of the plantations is probably not equal to 100 per cent rating, and furthermore, rubber has been produced as fast as possible since last August, owing to the shortage of labor, due to previous restriction.

"The production of rubber is a question of recruiting sufficient labor to get the full production of existing plantations, which will probably take until next summer, and then the recruiting of additional labor to take care of new planted areas, either through the extension of existing plantations or the starting of new ones.

"Of course the latter is six years away from actually affecting the available supply of rubber.

"The 100 per cent release will have the sentimental effect of realization that rubber production is no longer restricted and we will have available potentially the entire world's supply but the harm has already been done and it will be a long time before rubber can be produced in sufficient quantities to meet the needs of the world.

"The absence of restriction should also do away with a certain amount of speculation in rubber, as has been prevalent under the restriction act."

O'Neil's Statement

W. O'Neil, president, General Tire & Rubber Co.—"A new release of 10 per cent was due Feb. 1 and with great magnanimity Great Britain increased it 5 per cent.

"But even that means nothing. In August, when there was a 65 per cent restriction order prevailing, an additional 10 per cent was released. But in the three months that followed, only 8.2 per cent of the arbitrary rubber supply was released.

"Another release of 10 per cent was made Nov. 1, but so far as I am able to see, there has been no increase in actual rubber exported.

"In other words, with 85 per cent of normal production being released in theory, the British planters are shipping every available pound of their production, and are 12.8 per cent behind the release.

"The British restriction act has done all the harm that it can do. Lifting restrictions now is simply a grand diplomatic gesture that can have no appreciable effect."

SOFTENING THE BUMPS

This illustration from *Gummi-Zeitung* shows how a tire manufacturer demonstrated the action of balloon and regular cord tires at a recent automobile show in Germany. The rotating cylinders under each tire bore ridges which imparted impacts to the treads of the two tires and the effect of these impacts was apparent in the vertical motion of the two occupied chairs underneath.

Suffice it to say that this exhibit not only attracted much attention, but it also served to illustrate the action of balloon tires in a way easily understood by the average motorist.

Gates to Erect Addition

The Gates Rubber Co., 999 South Broadway, Denver, Col., manufacturers of tires and tubes, will start soon the erection of a two-story plant unit, 50 by 125 ft., estimated to cost approximately $100,000, with equipment. It is proposed to build another unit at a later date to cost $150,000, for which plans will soon be completed.

Oak Hill Rubber Opens

The Oak Hill Rubber Co., Oak Hill, Ohio, recently began the production of rubber cushions. At present ten men are employed but this force will be tripled as soon as orders justify it. The company, in addition to manufacturing chair cushions, will make various sponge rubber products, including sheet sponge rubber, bath sponges, and molded and dyed sponge specialties.

ANOTHER INCREASE IN TIRE PRICES EXPECTED

According to rumors from Akron, another increase in the price of tires will be made before the first of the year, due to continued high cost and the shortage of crude rubber. The increase will probably range from 10 to 20 per cent.

G. W. Spahr, general sales manager of the Dayton Rubber Mfg. Co., Dayton, Ohio, is one of the executives who anticipates an increase. "When general commodity prices dropped in 1921", he said, "to approximately 45 per cent above pre-war prices, the cost of tires dropped to approximately 20 per cent below the pre-war selling figure. Then in 1922 when general commodity prices again rose to a level of more than 50 per cent above pre-war stages, tire prices declined to 25 per cent below pre-war selling figures. In 1923 when general commodities were boosted to more than 65 per cent above that of the pre-war standard, tire prices increased slightly, but still were approximately 10 per cent below pre-war prices. From then on, general commodity costs remained at about the same level, dropping to slightly under 50 per cent above pre-war prices. However, the prices of tires steadily declined, reaching their lowest level approximately 40 per cent below pre-war prices, in the latter part of 1924."

An increase of from 5 to 20 per cent in the price of Dayton tires was put into effect Oct. 19. This, Mr. Spahr said, brings the cost of tires to the consumer to about what it was before the war.

Predicts Cheaper Rubber

H. T. Dunn, president of the Fisk Rubber Co., Chicopee Falls, Mass., who recently returned from Europe on the *Aequitania*, said that the peak of crude rubber prices had already been reached and that cheaper rubber may be anticipated. "In my opinion," said Mr. Dunn, "the Stevenson plan will not be abandoned, but will be modified to allow an increased amount of rubber to come into the country. The rubber industry should be in a better condition. There is plenty of rubber abroad and we want it, so I expect that we will get it. I am optimistic regarding the future of my company and of the industry in general."

Vulcanex Oil Announced

Vulcanex Oil, a new pine product especially useful in reclaiming highly vulcanized rubbers that contain a considerable excess of sulphur, was recently announced to the industry. The oil vulcanizes with the excess sulphur and remains in the rubber as a vulcanized terpene producing in this way a reclaimed rubber that is soft and workable without sulphur.

E. W. Colledge, Jacksonville, Fla., is general sales agent; represented in the east by J. C. Matthews, 300 Madison Ave., New York; and in the west by S. S. Skelton, 1605 Kimball Bldg., Chicago. Other agents are Anthes & Son, Montreal; Tyler Patterson Co., Cleveland; American Turpentine & Tar Co., New Orleans, La.; Dunlevie Pine Products Co., Allenhurst, Ga.; Florida Wood Products Co., Jacksonville, Fla.; and Homer D. Butts, Pittsburgh.

HODGMAN BUSINESS SOLD TO STRAUSS INTERESTS

The business of the Hodgman Rubber Co., Tuckahoe, N. Y., was recently sold to interests connected with the Archer Strauss Rubber Co., Framingham, Mass., manufacturers of rubberized fabrics. Plans calling for the continuation of all Hodgman lines, excepting balls and toys, will be announced as soon as completed.

It will be recalled that THE RUBBER AGE reported the sale of the Hodgman factory to Max Marx, real estate operator, for $625,500 in our November 10 issue. In a later issue an item that told of the formation of the Hodgman Holding Corp., with a capital of $30,000, to manufacture footwear in the plant at Tuckahoe was published.

It was later announced that J. A. Roberts and F. G. Roberts, president and treasurer respectively of the Paramount Rubber Co., Consolidated, formerly located in Little Falls, N. J., had repossessed the toy lines which, together with the necessary equipment, they put into the Hodgman company at the time of the merger of the Hodgman and Paramount interests some years ago. In addition to a factory in Montreal, which is now being operated, the Messrs. Roberts will probably secure another factory, somewhere near New York. They have the right to use the Hodgman name in connection with the toy and rubber specialty business. This line of Hodgman goods was always popular, and it is expected that the Roberts interests will find the line profitable.

Hold Goodyear Graduation

More than 1,100 people attended the recent ceremonies which marked the graduation of the ninth class from the production and engineering school of the Goodyear Tire & Rubber Co., Akron. The graduates, who numbered 65, were addressed by P. W. Litchfield, vice president, among others.

Sure Foot Sold

The Sure Foot Heel & Rubber Co., Gettysburg, Pa., was recently sold by Roy P. Funkhouser, receiver, to his brother, R. J. Funkhouser, Hagerstown, Md. Mr. Funkhouser, who bid $24,300 announced that the capitalization would be increased and the production of rubber heels continued on a much larger scale.

Organize Triumph Corp.

The Triumph Rubber Corporation, Lodi, N. J., was recently incorporated to manufacture rubber products. Authorized capital is $50,000 in preferred stock and 1,000 common shares of no par value. Incorporators are Albert P. Calvet, Marcel Calvet and Frederick A. Schultz.

GERMAIN OPTIMISTIC ON RUBBER SITUATION

E. B. Germain, president of the Dunlop Tire & Rubber Corp., Buffalo, N.Y., who has been studying the crude rubber situation, believes that estimates of the statistical position of the rubber industry have been too pessimistic. His own analysis of the situation based on revised figures of the Rubber Association of America shows a total consumption of 382,881 tons for 1925 as against arrivals of 382,868 tons, with two months estimated.

"Many articles have been published dealing with rubber figures for this year," said Germain. "Some of them appear to have been in error due to the fact that the statisticians preparing the figures did not make the correction in the Rubber Association figures of consumption for the first seven months. The Rubber Association found it necessary to make certain changes following the very complete study of the Department of Commerce. The figures covering consumption and arrivals taken from the corrected figures are as follows:

	CONSUMPTION	ARRIVALS
January	29,638 tons	29,960 tons
February	29,761	23,456
March	33,498	33,914
April	34,139	27,231
May	35,322	36,889
June	35,822	30,337
July	36,053	33,918
August	35,910	31,584
September	31,691	27,071
October	29,047	34,908
November	*27,000	*41,600
December	*25,000	*32,000
Totals	382,881	382,868

*Estimated.

"The consumption figure for November has been estimated at the same rate per working day as the figure for October. The December figure is estimated slightly reduced from November because of the interference of holidays, the drop in dealer demands and reduced requirements of automobile manufacturers. November arrivals at the port of New York as shown by one of the reporting agencies amounted to 37,600 tons. Figures are not yet available for other ports of the United States, but the writer has estimated them at 4,000 tons. This would give total arrivals of 41,600 tons. December is estimated at 32,000 tons. This figure is largely a guess as one month is influenced to a considerable extent by ships being ahead of time or late.

"It will be noted that the total consumption figures for the year are almost identical with the total arrivals. This places the statistical position of the United States right back where it was January 1, 1925, when rubber was selling at approximately 38 cents a lb."

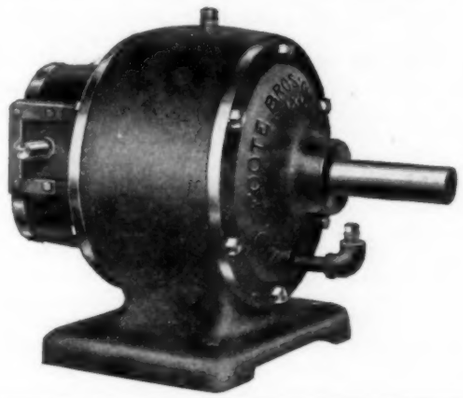
Firestone, Jr., Back

Harvey Firestone, Jr., returned recently from London where he organized an office of the Firestone Plantations Co. Mr. Firestone said that the company intends to go ahead with its plan to grow rubber in Liberia regardless of whether the Stevenson Plan ceases to operate. The company will use a small plantation of 2,000 acres, planted in 1910 as the nucleus of the development.

FACTORY EQUIPMENT

FOOTE DEVELOPS RIGHT ANGLE DRIVE REDUCERS

Most standard spur gear reducers, as produced by a number of well known manufacturers, are designed for what is known as "straight line drive." This means that the primary or driving shaft of the machine is concentric or has the same axis of revolution as the secondary on slow speed shaft. When these machines are connected with the driving motor, the shafts are consequently butted one against the other and joined by means of some sort of flexible coupling or universal joint to take up misalignments, etc.



The new IXL Right Angle Drive speed reducing unit just put on the market by Foote Bros., Chicago.

With this arrangement the motor and speed reducer, require considerable space in a straight line from the end of the shaft on the driven machine. There are however some industrial applications for speed reducers where space is rather limited, such as where the driven machine is mounted alongside of a wall or the reduction unit must be mounted within, behind or on top of the machine.

Will Operate in Confined Space

The new line of IXL Right Angle Drive Spur Reducers recently developed by Foote Bros., Chicago, is designed to meet the requirements for reduction gears that must operate in confined spaces where sufficient room is not available for the mounting of standard straight line drive units and where it is necessary to change the direction of the power drive.

The IXL Right Angle Drive Unit is illustrated on this page from which it may be seen that the machine is very similar in appearance to the standard straight line drive speed reducers but that the high speed shaft projects at right angles to the axis of the slow speed shaft. The change in direction of the power drive is accomplished by means of bevel or mitre gears—mounted in the high speed end. The secondary bevel or mitre gear being mounted on the high speed driving shaft which is concentric with the slow speed shaft.

Except for the addition of the bevel gears in the high speed end, the design of the machine is identical with the standard IXL Non-Planetary Spur Gear Speed Reducer. The high speed pinion being integral with the high speed shaft and delivering the power through three idler gears set at 120 degree angles to a large rotating internal gear. The internal gear is securely fastened to the slow speed shaft. The high speed pinion, together with the idlers, internal gear and slow speed shaft, comprise the entire mechanism for a single reduction train which can be repeated in securing greater reduction ratios.

By changing the size of the pinion and internal gear and the relative size of the bevel gears in the high speed end, almost any desired relation may be obtained between the speeds of the high speed and low speed shafts.

The manufacturers produce these right angle spur reducers in a large variety of standard sizes and reduction ratios, horsepowers ranging up to 150 hp. and reduction ratios up to 350 to 1.

Hevea Corp. Assigned Patent

The Hevea Corporation, New York City, have been assigned U.S. Patent No. 1,558,688, issued to Chauncey C. Loomis, of Yonkers and Horace E. Stump of Brooklyn. This patent covers a process of compounding rubber by the introduction into the main body of rubber material of ingredients prepared by surrounding and encasing their particles in a thin coating of rubber.

Splicing Method Patented

Erwin E. A. Meyer, assignor to Morgan & Wright, Detroit, Mich., was recently granted U.S. Patent No. 1,561,942 on a method of splicing unvulcanized rubber articles by severing the uncured rubber, coating the freshly exposed surface with an aqueous dispersion of rubber and subsequently joining the surfaces thus coated.

GENERAL ELECTRIC CO. PERFECTS NEW TURBINE

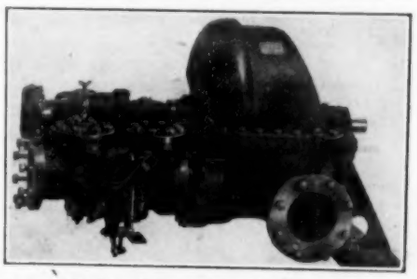
The type D-54 mechanical drive turbine, intended for the driving of centrifugal pumps, blowers and other classes of mechanically-driven machines, is described in a bulletin just issued by the General Electric Co., Schenectady, N. Y.

The turbine rests upon three points of support. The wheel casings, diaphragms, bearing linings, and packing boxes are split horizontally for convenient inspection or removal of wheels. For high steam pressures and temperatures the casings and other affected parts are made of steel. The turbine can be arranged to operate at pressures up to 400 pounds and steam temperatures up to 725° F.

Expansion and contraction with wide variations of temperature are provided for in the special method of supporting the turbine casing. Instead of resting upon feet and expanding upward from the base, the casing is supported near the horizontal plane of the shaft and expands both upward and downward from the plane without disturbing the alignment of the shaft. The support at the coupling end consists of a non-flexible bracket bolted and dowelled to the bedplate. The inlet end of the turbine is supported by a piece of channel iron having sufficient flexibility to allow free lengthwise expansion and contraction.

Both steam and exhaust pipes are attached to the lower half of the turbine which allows removal of the wheel without breaking steam joints. The steam inlet is located to one side and well away from the turbine bearing, avoiding the transmission of heat to the bearing.

Wheel discs are steel forgings; main bearings are ball seated and self-aligning, ring oiled from reservoirs, and arranged for water cooling if desired; shaft packings are metallic or carbon; and the centrifugal governor has ample strength with little friction. The speed of the turbine may be varied 15 per cent while in operation by means of a simple adjustment.



Type D-54 General Electric Steam Turbine

The turbine is supplied either condensing or non-condensing up to 400 hp., 1,200 to 4,000 r.p.m.

Hood Registers "Excel"

The trade-mark "Excel", used on rubber heels, soles, and rubber footwear since February 1, 1924, by the Hood Rubber Co., Watertown, Mass., was recently registered in the U.S. Patent Office under Ser. No. 215,931.

The Crude Rubber Situation

Conservation, Greater Production and the Use of Substitutes Recommended to Offset Shortage

By P. L. Palmerton

Chief of Rubber Division, U. S. Dept. of Commerce

WE should all of us feel a distinct satisfaction in meeting here tonight in commemoration of the One Hundredth Anniversary of the definite entrance of rubber into the commerce of America. As each man achieves a greater number of years, the entirely human trait of respecting, even revering old age becomes stronger and passes beyond personalities to relate itself to the activity which provides him with a livelihood and a cause for being. In a country of the great energy and comparative youth of America, we do not so frequently have time or opportunity for observing our works in the light of a century.

In 1825, at which time Thomas Wales of Boston established a regular import trade in rubber goods, articles fashioned crudely of rubber in countries where the gum was produced had reached America particularly through mariners and some attempt had been made definitely to identify and provide a broadened use for the curious gum which these far travellers brought home. Since Thomas Wales started this regular import trade, particularly of rubber shoes from Brazil, in 1825, it has been of interest to search the import statistics of the United States to find when the trade had become of sufficient importance to secure a separate entry in the published records of the Government. And so it is that in the Treasury Department reports of the country's import trade in 1849 we find there were imported from Brazil 345,020 pairs of India rubber shoes and slippers, valued, you will be interested to learn, at $52,335, or an average of 15 cents per pair. This import value per pair will in itself be an interesting item, particularly in view of the prices at which we have arrived today.

Imports of Footwear 1850

In 1850, we imported from Brazil 295,622 pairs of these rubber shoes, valued at $49,495. At this time, the imports of rubber manufactures seemed to be limited very greatly if not completely to rubber footwear and to be coming exclusively from Brazil. The industry stood on the threshhold of a profound change, however, for it was at this time that the discovery of the second man in whose memory we meet, Charles Goodyear, had been perfected and come into general use. So it is that five short years later, we see manufactures of rubber reaching us from both England and Canada, even a small quantity from Germany, to the value of $43,720. In the same year, according to the import figures whose source I have already mentioned, the United States imported $1,660,000 worth of crude rubber to supply its own infant industry.

I have been interested in looking into an old publication of Thomas Hancock's, written and illustrated in 1857, in which he shows some of the uses to which rubber had been put in the few years following the discovery and perfection of the process of vulcanization. The great adaptability of rubber had been immediately recognized and with the disadvantages overcome of having rubber products either stiff with cold or melting with the heat, we see its use expanding in that early day to tubing and washers and springs in the mechanical line; to sea coats, overalls, boots, hats, buoys, etc., in the nautical line; to baths, bathing caps, pouches, stoppers, etc., in the domestic field; and to dozens of others in the field of sports, of travel, or the sick room, and lastly into the field of transportation, in which we see the early use of rubber tires on carriage wheels and on warehouse and railway trucks.

This remarkable development in the use of rubber following the discovery of vulcanization is only one of the remarkable steps in its history since Thomas Wales offered his crude Brazilian products to the New England public. We have heard of the comfort which rubber articles were ready to give to those wounded and sickened in the Civil War, which makes us recall from our own memories the very great part played by the material in a more recent conflict in the fields of transportation, of protection, and of relief. Industrially, the greatest role that rubber has been called upon to play is one that was perhaps one of the lesser important in 1855-57. I refer, of course, to the use in tires for the wheels of vehicles. Having provided the cushioning for some of the first bicycles and for the later development of that vehicle, we see rubber answering the call of the first automobile. But this last development, which was to be the greatest to date in the field of rubber, came only with the beginning of the present century and so we see that Thomas Wales' commerce in rubber products had grown only to some forty-nine millions of dollars in 1899.

Labor of Pioneers Bore Fruit

Twenty years later the American rubber industry produced and sold in one year more than one billion dollars worth of goods and was finding constantly increasing demand for its products. It is inconceivable that Thomas Wales could have visualized such a tremendous growth in the commerce that he started or that his successor, Charles Goodyear, could have foreseen with all his vision the momentous results of his discovery, even though he must have felt that it brought to mankind a vastly greater opportunity to use a product which could become well-night indispensible. But with all these surprises which Thomas Wales and Charles Goodyear would have felt at rubber's strides, it is likely they would have been no more surprised than at the situation which confronts today the industry which sprang from their labors. I refer, of course, to that of crude rubber.

I need not touch upon the transition in the source of crude rubber supply from the Amazon jungles which supplied Thomas Wales with his first products and the young rubber industry with all its crude material, to the orchard-like plantations of the Middle East, which under the stimulation of high rubber prices following 1905 were increased to an acreage beyond what could have really been foreseen as necessary. A most interesting question for idle times has been whether in these recent years the automotive industry should give thanks to the Eastern plantations for having rubber ready for the tires of their millions of vehicles or whether the crude rubber industry should give thanks to the automotive industry for its amazing expansion which no man could have seriously predicted at the time planting was entered into so blindly in the tropics of the Middle East.

Production Exceeded Demand

But in spite of the amazing and tremendous increase in the number of automobiles in use, particularly in the United States, and the great demand for rubber for tires occasioned thereby, the amount of rubber which the new plantation industry was able to produce exceeded that which the automotive industry and other users of rubber could take, with the result that the planters were obliged finally to sell their product at figures which yielded far less than the handsome profits to which they had been accustomed. Since the world did not provide a market for all of the rubber which could be produced, it was a natural thought that the solution lay in the curtailment of production.

Restricting the production or exportation of crude rubber from the Middle East where 90 per cent or more of the world's supply was coming from was first seriously considered in 1919.

Address delivered at Centennial Dinner at Boston, Mass., December 7, 1925.

During the early part of that year, there was a considerable quantity of crude rubber accumulated in the East due to a shortage of shipping in the last year of the war and that together with the psychological effect of the end of the War and the probability of a declining demand sent prices down until in June, 1919, ribbed smoked sheets sold in New York City as low as 37 cents per pound, which was the lowest price known since rubber had become commercially important. Crude rubber prices slumped further in 1920 with the deflation in business general throughout the world and the excitement in the crude rubber industry naturally became intense. There followed two years of attempts at voluntary restriction in the British colonies, of appeals to the home governments of the colonies in which the plantations were located, of attempts to interest the Dutch along with the British, until finally on November 1, 1922, the restriction scheme with which we are all now so well acquainted was put into effect. Under a sliding scale of prices, the exportation of rubber was restricted by certain percentages in British Malaya and Ceylon, in which territories there lay some 65 per cent of the total acreage of plantation rubber.

Did Not Become Effective Immediately

There were certain factors which kept this legislation from becoming fully effective at once. The first of these was the large stock of rubber already accumulated throughout the world; the second was the natural increase of production which came about in non-restricted territory as soon as prices showed any tendency to improve; and third, there were considerable evasions of restriction through smuggling and forgery. The final elimination of these factors occupied more than two years. The large stocks were finally reduced and smuggling and forgery were curbed. The greatly increased consumption of crude rubber throughout the world became sufficient to overbalance the increased production which non-restricted areas could deliver and early in the present year prices began to show a marked firmness. As you know, this has been accentuated throughout the year by a surprising increase in the consumption of rubber not only in the United States but in Europe and other countries as well.

So we find ourselves today consuming rubber at an unprecedented rate and with restriction still in effect in Malaya and Ceylon. At the same time, the price of rubber remains above $1.00 a pound, which is several hundred per cent above its fair cost of production. The maintenance of such a price has already resulted in marked increases in the prices of finished goods of all sorts. Tires and tubes, for instance, have been subject to five price increases in the last eight months, the net result being that the average Ford owner must pay an additional $20 or so for the tire equipment which he needs for a year's driving. The additional burden imposed on the owner of a car of medium-weight is $50 or more while the increase in the amount a bus or truck operator must spend for tires is of course considerably more. Furthermore, it appears that the burden has not yet become all that it may. In remembering the pioneers of our industry tonight, we can perhaps do no better than to survey this present situation and to discuss means of alleviating it.

What Restriction Has Done

What restriction has really done is to keep a large amount of rubber off of the market, thereby hastening the day when demand would balance or exceed the supply. Even with our present rate of consumption and production, the situation would not be so serious if it were not for the fact that this withholding of supplies has reduced stocks throughout the world to a point abnormally and dangerously low. What are the chances of replenishing these stocks in 1926

The consumption in the United States during the present year will fall but little short of 400,000 tons, while other countries may be expected to consume from 160,000 to 170,000 tons. It has been suggested by some that these high consumption figures would not normally tend to increase during 1926. If rubber were selling at a reasonable price, I believe there is no real question concerning their increasing.

In the first place, there would be the increased use of rubber products which comes normally through the growth of population and improvement in standards of living throughout the world. In the second place, industrial activity promises to continue rapid so that the consumption of mechanical rubber goods will remain high and will continue to grow. But since tires and tire sundries have actually consumed more than 80 per cent of the rubber used in this country, we should consider most carefully the prospects of an increased demand from that quarter. It is quite possible that automobile production will decline somewhat as compared to 1925, but such decline is apt to be quite moderate in view of the present full employment and general prosperity coupled with the large demand for cars to replace vehicles going out of service. It is necessary to remember, furthermore, that original equipment tire demand is considerably less important today than is the replacement demand from the country's millions of motorists and any reasonable decline in car production does not slacken the tire industry so markedly as was once the case.

One of the reasons for the high consumption of rubber during the present year has been the increased use of balloon tires. I have tried to find definitely how much more rubber is consumed in a balloon tire of a given size than would be used in the high pressure tire which it replaces. The most reasonable average seems to be 20 per cent, although this percentage would vary between sizes and types. We may expect this factor of balloon tires to continue important during 1926, chiefly for the reason that the replacement demand for balloon tires will become more and more active. During the present year, the increase in the use of balloons has largely been that of original equipment. Still not all car manufacturers have yet adopted balloon tires for all of their output, although such a move is imminent and will materialize at least in part in 1926 with a resulting increased use of rubber in tires for that part of the automotive industry.

Results of Tire Surveys

The Department of Commerce took two surveys of tire dealers' stocks in the present year and was interested to find that in October, dealers were carrying twice as many balloon tires as they were carrying in April. Similarly, twice as many dealers had seen it to their advantage to stock this type of tire. This is but a reflection of the movement to come in having balloon tires replace high pressure tires in the stocks of dealers throughout the country. In 1926, the many balloon-tired cars sold in 1924 and early in 1925 will be demanding replacement tires. The balloon tire has been responsible for a greatly increased rubber consumption in 1925 but it certainly may be expected to cause a still further increase in 1926 since balloon tires not only require more rubber but must be replaced more frequently since they have generally failed to give mileage equal to the high pressure tires they have succeeded. Another tire that uses increased quantities of rubber is the bus tire for which there is a rapidly expanding demand.

Turning to countries outside the United States, the increased consumption of rubber in the present year has been largely due to economic recovery and the greater acceptance of the motor car made possible thereby. There appears to be nothing which will prevent this movement from expanding in 1926. Certainly, therefore, it seems to me that we might normally expect a considerably increased consumption of rubber in 1926 as compared to 1925.

But let us look now at production. We see that under the normal working of the restriction act, the exportable percentage would become 95 per cent on February 1 and would be 105 per cent or 115 per cent on May 1, according to whether or not any liberalization of the act had been announced in the meantime. In other words, the effect of the restrictive legislation will have passed largely and we may accordingly expect an increased production in British Malaya and Ceylon. But it appears that this increased production will not be so great in spite of the fact that it would be exportable.

In the first place, many plantations have not under recent restriction been producing far from their capacity since standard production has been liberally assessed in most cases. In the second place, those plantations which could make a marked increase in their production will be prevented to some extent from doing so by the unfavorable labor situation which makes it necessary for new labor to be recruited and trained. In

the third place, production having been put on an alternate day basis of tapping, it is unlikely that Malayan or Ceylon planters will make any change or will be tempted into a production enlarged to the extent where the trees would be injured. Therefore, it appears reasonable to believe that there will be an increased production on these planted areas in 1926 but that such increase in production will not so greatly exceed the normal increase in consumption as to permit stocks in the secondary and consuming markets to be built back to a point where the speculator may be eliminated and the price reduced to a thoroughly reasonable level. In the face of such a condition what is there for us to do?

It seems to me that there are three methods by which the present situation can be somewhat alleviated. The first of these is conservation on the part of the millions of users of rubber goods in this country in order that the products we have, shall not be replaced until they are really worn out. With the advances in the price of finished rubber goods which necessarily follow marked and sustained advances in the price of crude rubber, a natural conservation will be evoked. But this conservation will not reach its full effectiveness until consumers generally have felt the effect of several price increases. Again, natural conservation will not be truly wise and helpful without some degree of guidance. Consequently, it may be asked if a service can not be rendered the rubber industry and those whom it serves by a preachment of safe and sane conservation covering proper care and repair.

Much Rubber Was Wasted

This is no small factor. We already know that during the period of low-priced tires, thousands—even millions—of casings were scrapped which contained good mileage, it being more satisfactory to the owner to pay the low price for new equipment rather than to repair his old or to take a chance of inconvenience through continuing to use them. Every user of rubber goods needs to be taught the steps that will enable him to extract the greatest utility from every rubber article, and then he should be encouraged to take such steps. If we remember that most rubber goods readily classify themselves as necessities, many of them being accessory to high priced equipment previously acquired, it does not appear that propaganda teaching proper use, care and repair could induce a serious decline in the total sales of rubber manufacturers although it could easily be responsible for the saving of enough rubber to change entirely the complexion of the crude rubber market.

The second factor in meeting the present situation lies in the use of substitutes. The principal substitute is, of course, reclaimed rubber. I recognize that reclaimed rubber is at all times a useful ingredient in rubber compounding, but at the present it has an opportunity—which we can be thankful that it is grasping— to go far beyond that role and assume a place of the greatest importance. I understand that reclaiming plants throughout the country are unable to care for the orders which are offered them and that expansions are planned on every hand so that the capacity of the rubber reclaiming industry may be very greatly increased.

To Make Survey of Reclaimers

It is one of the present plans of the Division, which I represent, to make a brief survey of the present capacity of the reclaiming industry, of the expansions which are definitely arranged for, and of the estimated capacity thereafter, in order that all reclaimers may proceed in the safest manner in serving the industry to the fullest. If there are other services which may be rendered the reclaimers, they should be undertaken. The reclaimers deserve the support of everyone.

Other substitutes which should be taken advantage of include gums used but little in the industry when rubber is at a low price. The production of some of these is being stimulated; of others it is dormant. These gums relate themselves rather closely, however, to the third factor which I have in mind, that of wild rubber.

The production of wild rubber, of rubber of the finest grade, could be very materially increased. I do not mean that the total tonnage would be enormous, although with proper encouragement, it could perhaps be made far to surpass what is commonly regarded as its limit. In the last crop year the increase in the Brazilian production was insignificant and Amazon Valley production still falls far short of what the region did 10 or 12 years ago. Left to themselves, with prices continuing high, it is likely that the wild rubber regions could regain or surpass the high production which they attained some years ago, I believe it was some 42,000 tons for the Amazon Valley alone, but two or three seasons would perhaps be consumed while the fever of profitable prices was spreading once more from New York to Para and thence from merchant to merchant on up to the far reaches of that great Valley. There should be some propaganda by which this potential increase in production could be made real within the next twelve months. This propaganda might even extend to a guarantee of a reasonable price which it would appear, could be undertaken without danger to the guarantors.

Three Factors Recommended

I recommend these three factors, of conservation, of the greater production and use of substitutes, and of a greater exploitation of wild rubber areas, to your serious consideration. If, as I have suggested, the increased production of plantation rubber during 1926 were sufficient to take care of the normal increase in the demand for crude rubber, might not these factors go a long way in rebuilding the stocks whose serious depletion puts us in such a plight today?

But we cannot stop with a consideration of 1926 and with present relief. We must consider also future relief, which will certainly be necessary in spite of all these factors can do in 1926 and in succeeding years. Future relief can come only from getting into the ground the trees which have not been planted during the last four years. You have all perhaps been impressed with the belief of that careful observer, A. W. Still of the Singapore Straits Times and Budget, that one million five hundred thousand acres of new rubber is not too ambitious a program to be safely undertaken. British authorities have been more conservative, but have seen the need for a million additional acres. I need not give you the arguments on this point. Certain it is that more and more the entire world must approximate the recognition and use of rubber that has been accorded it in the United States and just as surely must the consumption in these United States advance also. Even if we accept the belief of a fairly early stabilization of motor car demand in this country, we shall only have tires put on the same plane as that of rubber footwear and other rubber staples which have reached the place where the demand for them increases as population and standards of living increase. The room for expansion in this country is tremendous; in many other parts of the world it is even greater. It is inconceivable that the exploitation of resources everywhere will not continue so that an increasing number of people will be enabled not only to live but to live more comfortably and conveniently. It is likewise inconceivable that in such a program rubber should not be called upon to play its important part.

I have agreed only in part with those who have expected the rubber manufacturing industry to produce its own crude material. Surely, the craftsmanship involved in rubber manufacture and the skill required in tropical rubber culture are as dissimilar as any two parts of an industry could be. So it has not seemed illogical that manufacturers should be reluctant about embracing both lines, but it does seem clear also that the time has come for American rubber manufacturers to show a feeling of real responsibility for the procurement of their principal raw material at a fair price. Whether this means planting of rubber by manufacturers individually or by manufacturers collectively or by someone else with their aid or merely with their encouragement, it does mean that the leadership in stimulating the production of such supplies should come from within the rubber industry itself. If investment in rubber plantations is a good thing, it need not be that American investment should come completely or even principally from within the ranks of those who use crude rubber in their businesses, but unless they show some feeling of security in that direction, it need not be surprising that other investors will likewise stand aside.

In order that general American investment in rubber plan-

(*Concluded on Page* 210)

Uses of Rubber Latex

Since Hancock Suggested Latex for Making Soles, It has been Recommended for Almost Every Purpose

By Stephen B. Neiley
Representative of the Rubber Latex Research Corporation, Boston, Mass.

WHILE celebrating the 100th anniversary of the birth of the rubber industry in this country, it is not without interest to note that this is also the 100th anniversary of the first use of fluid rubber latex in England. Toward the last of May 1825, Thomas Hancock acknowledged, before King George the IV in his Chancery, a patent specification in which he stated that the liquid he used was brought into the country and said to be the juice obtained from certain trees which grew in several parts of South America, the East Indies and other places abroad. He further remarks that it is stated in William Nicholson's "General System of Chemical Knowledge" that this juice is obtained in South America from a tree called the Hevea.

It was not until 50 years later that in 1876 Henry Wickham brought Hevea seeds from Brazil to England. The first cultivated rubber trees were grown in the Royal Botanical Gardens at Kew.

It is reported that several shipments of latex, preserved in some manner, were received in England in the year 1853, but it was not until the trees at Kew had grown to a tapping age that strictly fresh latex became available in England for the first time. Preservation against coagulation was then not appreciated.

Biffin, a horticulturist of the Kew Gardens, tapped some of the Hevea trees there and experimented with the fresh latex thus obtained, but no commercial application resulted.

Hancock's Hevea juice could be shaken up with water and a latex of cream-like consistency would rise to the top in an hour or so. Latex in its natural state, or when preserved against floculence, will not do this.

Morisse's Patent

In 1905 one, Lucien Pierre Theodule Morisse, obtained a patent in England on the preparation, for transport, of lactiferous juices giving India rubber which consisted in adding ammonia to fresh latex.

In 1922, about one quarter of a million gallons were exported from the plantation centers. The next two years saw an export of about one million and a half, each, and the Far East has supplied about the same amount during the first six months of this year.

It is interesting that at about the time when preserved latex was first available for experimental purposes, several investigators should have been engaged in attempts to disperse rubber in water; that is, to make an artificial latex. While in England Frederick Kaye was incorporating rubber latex in paper stock, a manufacturer of photographic papers in this country was attempting to obtain a non-shrinking paper by the use of rubber dispersed in water.

Since then rubber latex has been suggested for almost every conceivable use.

It has been electrolitically deposited on cloth, or formed into thin sheet-rubber by an electrolitic deposition. It has been used to waterproof matches. The housewife's beeswax is made less brittle by the incorporation of rubber from latex. Finger cots may be made by dipping the finger into a convenient supply of fluid latex. The rubber globules have been vulcanized in the fluid latex and later assembled already vulcanized into convenient shapes. Fresh fruit has been preserved against dessication and decay by a coating of latex. Fluid latex has been used to control the consistency of rubber being milled, the latex being sprayed onto the batch. It has been used as a cement in the shoe and other industries. And it is being used as a binder in glazed paper finishing. Cords for tire construction have been impregnated with it, as have fabrics for many purposes. Belts for commercial purposes have been made of latex rubber reenforced with fiber.

One of the most interesting improvements in the preparation of crude rubber was suggested and perfected by Ernest Hopkinson, vice president of the United States Rubber Company, who conceived the brilliant idea of spray-drying latex, thus avoiding the use of acid, smoking or washing.

Demonstration at Rubber Centennial Dinner in Boston of Original Method of Building Rubber Shoes By Dipping Last in Latex and Coagulating by Smoking.

Latex may be so treated and purified as to yield pure rubber. It may be so concentrated and handled as to yield dipped goods at a single dipping, and it permits the assembly of fibers into shaped articles without destruction of fiber length. Thus it is possible to build a tire carcass in the dry, bond the fiber elements together with rubber from rubber latex and finish the tire as usual.

Latex may be concentrated mechanically, as is the cream from milk, to a concentration of 60 per cent to 65 per cent rubber. The non-rubber constituents, proteids, carbohydrates, salts, et cetera, may be removed and a concentrated solution of pure rubber obtained suitable for the finest dipped goods. Rubber thread may be made continuously from latex much as artificial silk is now produced.

Most of the suggested uses for latex have involved the solidification of the contained rubber by drying. There are many uses of latex in which the solidification may be accomplished by acid coagulation. After the rubber has solidified, it may be washed to free it from traces of acid and it may be compressed to remove most of the water and reduce the final drying to a relatively short operation.

In the manufacture of rubber bonded abrasive wheels, rubber latex bids fair to displace rubber cements, as rubber cement did milling. The milling of abrasive grain into rubber so broke down the grain as to yield a dense burning wheel. The same grain made into a wheel with rubber cement was much less dense, more free cutting and had rather better tensile qualities; but the use of solvents, all of which are prejudicial to health and involve a high fire hazard, have operated against the popularity of this process. Rubber latex, however, offers no such objections. This is also true of many other operations involving the large use of rubber cements.

In looking back, it is not without interest to note that after a hundred years we still stand on the threshold of the door opened to us by Thomas Hancock when he suggested the making of soles for footwear, belts and harness from rubber latex.

Read before the Technical Conference at the Centennial of the American Rubber Industry held in Boston, December 7, 1925.

Guayule Rubber

Shrub was Considered a Nuisance for Centuries Until E. B. Aldrich Discovered its Possibilities in 1904

By David A. Cutler
President, Alfred Hale Rubber Co.

WHAT IS THIS Crude Rubber called Guayule. For centuries a shrub, reaching a height from eighteen to thirty inches from the ground, has been growing on a certain alkali soil extending from Texas down through the Republic of Mexico. This shrub, until about 1904, was considered a nuisance by those who owned the land where it propagated, similar perhaps to weeds in our section. The rubber obtained from this shrub is not a milk or latex but is placed by nature as a film between the bark and the stem.

About the year 1904, Edward B. Aldrich, son of the late Senator Nelson W. Aldrich, discovered the possibilities of commercializing the rubber obtained from this Guayule Shrub. Consequently the Continental Rubber Co. of America was organized and has since that time produced and sold large quantities of this rubber, in this country and in foreign countries.

The method used to separate this rubber from the shrub is as follows: The shrub is ground into fine particles. These small pieces of shrub are rubbed together by special machinery until a separation has been made. The whole mass is then floated in water until the wood has become waterlogged and sinks, leaving the rubber floating on the water. The rubber is then skimmed off, passing through the processes of cleaning, stabilizing the natural resins, drying, blocking into 100 lb. blocks ready to be used in the same manner as all crude rubber, at various consuming factories.

About the year 1919, George H. Carnahan, a mining engineer of note, was given the responsibilities of producing a better grade of Guayule than had previously been produced. The present methods used in manufacturing the most popular brand called "Duro" are the results obtained by the best talent procurable in the scientific field for this type of work.

Production of One Company

This company alone will, the current year, produce and sell 8,000,000 lb. of "Duro" brand Guayule Rubber. In addition, about one ton a day is being produced in Texas by the Border Rubber Company, and from the year 1911 to 1924 inclusive, about 73,000,000 lb. of Guayule has been sold.

It should be understood that this rubber is produced by American capital, on the North American Continent. Hence, for the reason that it can never be known when or how this Guayule Rubber might be the only crude rubber available for our urgent needs, those who are directly responsible for the manner in which crude rubber can be used for the manufacture of automobile tires, tubes, household rubber goods, and in fact all kinds of manufactured rubber articles, should in time of peace so support this grade of crude rubber as to make it invaluable to the art of compounding and guarantee American rubber manufacturers a secure supply of an American product in any emergency.

At the present time all the Guayule Rubber that can be manufactured in Mexico and Texas finds a ready market at prevailing prices which are much lower than Latex Crude Rubber prices.

If it were not for the foresight and ability of our American leaders of industry, who have given their time and their money, to the vast amount of about $13,000,000,000 invested in industries which require rubber goods in some form, the stupendous amount of 700,000,000 lb. of crude rubber per year would not be consumed in the United States. Also, if these same men expand their efforts over the world, as all signs indicate, who can imagine the amount of all kinds of crude rubber that will be required during the next decade. On the other hand, if those who are responsible for the economic guidance of the supply of this important basic material do not exercise the proper foresight, it is possible for such a condition to result whereby only a small part of the millions of pounds of crude rubber now sold by them to American manufacturers could be consumed.

It should be noted that about 80% of all the crude rubber produced in the world is used in the United States of America. This country alone will, this year, consume 700,000,000 lb. of crude rubber, at a cost estimated roughly at 20½c per lb. landed at the port of New York, and basing these figures on 400 lb. of rubber per acre per year, totals approximately $150,000,000.

Substitutes Needed

The difference between the estimated cost of $150,000,000 and the market value with quotations at $1 per lb., which totals $700,000,000, would seem to indicate a profit of $550,000,000 before the rubber manufacturer has been able to manufacture his goods. Therefore the consuming public should understand why they are asked to pay so much more for the rubber goods they buy now, than during the last four years, and realize they must pay this apparent huge profit on crude rubber alone, in addition to the manufacturer's cost and profit.

In the manufacture of automobile tires, Guayule Rubber has for several years been used successfully in frictioning the cotton duck. Its natural tendency to impregnate and adhere to the cotton fibres is more satisfactory than is the case with Latex Crude Rubber. Also with the present knowledge of compounding, the vulcanized result, using Guayule, for the above purpose is as satisfactory as when other grades of crude rubber are used. A compound using 30% of Guayule Rubber, replacing 30% of Latex Crude, is being successfully used today in the manufacture of inner tubes.

On account of the severe wearing conditions which are required in the use of automobile tires during service, it is necessary in this branch of manufacturing to build compounds which will resist wear to a far greater extent than in many other lines of manufactured rubber goods. It has been found, as a result of experimentation, that where a large percentage of reclaimed rubber is used in building a compound, a much better article is produced if 3%, 4%, or 5% of a crude rubber is used in combination. Therefore, on account of the nature of Guayule, no rubber is better fitted for this particular line of compounding.

In making hard rubber goods, such as are used in radio, if the Guayule is treated in such a manner as to pass through the ebulition point of the resins contained in Guayule, a most remarkable result is obtained.

During the early period of producing this rubber, it was very difficult to keep the rubber from becoming soft and sticky after it had been dried. There need be no fear of this when "Duro" brand Guayule is used, as the problem has been solved satisfactorily by chemists and engineers.

In conclusion, I might say that it is a well recognized fact among rubber men that the situation in regard to our supply of crude rubber in America has reached the point where action must be taken to safeguard the future sources of the crude rubber supply. The Firestone Liberia project is probably the most important action taken thus far.

In the spirit of helping relieve this situation, I have brought to your attention this source of supply, namely Guayule, and if more definite and detailed information is required by interested parties, naturally the producers of the product, such as the Continental Rubber Co. of New York, will be glad to give any information desired to help solve definite and individual problems.

Presented at Centennial Dinner at Boston, Mass., December 7, 1925.

The Market Place

WHERE TO OBTAIN

Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical and engineering services, etc.

ACCELERATORS—X L O and Diphenyl Guanidine.

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CARBON BLACK–*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."

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nine grades for the rubber industry.

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CARBON BLACK–*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.

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CARBONEX — Increases strength and durability of any compound while reducing the cost.

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CONSULT BANNER

Before You Buy TIRE BUILDING MACHINES

The Banner Machine Co.

Columbiana, Ohio

Paul A. Frank, Akron, Ohio, Agent.

THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, Dec. 15, 1925

Any uncertainty regarding this season's production of American cotton was practically banished on December 8 when the Department of Agriculture made its annual crop estimate. The prospective yield was placed at 15,603,000 bales of 500 pounds gross weight. At the same time the Census Bureau reported that prior to December 1, 13,857,686 bales of cotton had been ginned, an amount which was generally looked upon as tending to confirm the accuracy of the Department of Agriculture's estimate.

A considerable interval must elapse before next season's crop prospects begin to warrant serious consideration and not until the turn of the year, even if then, is the increased production of outside growths likely to exert any influence on the price of the domestic product.

Superficially, at least, the out-of-sight movement presents a strong bullish argument. According to figures of the New York Cotton Exchange, world's spinners' takings so far this season exceed those for the corresponding period last year by more than 950,000 bales and, in the even of the present comparative rate of increase being maintained, the entire production will be easily absorbed. As takings do not represent consumption, the magnitude of the movement in all probability reflects commitments entered into at the time when crop estimates of 13½ million bales were not uncommon and a shortage of supplies seemed likely. Spinners are believed to have covered their requirements much further ahead than usual; a scarcity of raw material need no longer be feared and, as the low grade feature of the crop is causing less apprehension due to the good spinning qualities which most of the off-cotton has been found to possess, mills have no incentive to place further business except at concessions.

In spite of the enormous take-off, the visible supply of American cotton is now greater than at any time since 1915 and whereas holders of white cotton continue to be reluctant sellers, it is not improbable that on comparatively moderate advances from present levels their attitude may become less firm.

According to A. Norden & Co., bearish sentiment appears to predominate as a result of the Government estimate, but the manner in which foreign and domestic trade interests have absorbed October contracts whenever these could be purchased around 18 cents leads to the belief that no material decline below this level is likely to occur. On the other hand, any decrease in consumption and weakening on the part of producers should, in view of the present supply situation, result in the old crop months being relatively depressed and it would not be a surprise to some well-informed factors to see the prevailing premiums on these positions replaced by discounts equal to carrying charges.

New York Prices

	Open	High	Low	Close	Close Dec. 1
January	18.51	18.91	18.51	18.95	19.56
March	18.75	19.23	18.75	19.20	19.59
May	18.55	18.98	18.55	18.94	19.27
July	18.25	18.15	18.25	18.65	18.90
October	17.85	18.19	17.85	18.17	....

TIRE FABRICS

A number of mills are now supplied with a moderate amount of tire fabric business for the third and fourth quarter of 1926. A few fabric plants are even sold up through the first half of the year. Some mills have secured enough business to encourage them to quote slightly higher quotations. For the most part quotations have held nominally unchanged.

CORD FABRICS

Combed Sakellarides		Nominal	
Combed Peeler	lb.	Nominal	
Carded Peeler		.48 @	.51
Combed Egyptian uppers	lb.	.66 @	.70
Carded Egyptian uppers	lb.	.58 @	.62

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal	
17¼-ounce Egyptian uppers, carded	lb.	.56 @	.59
17¼-ounce Sakellarides, combed	lb.	Nominal	
17¼-ounce Peeler, carded	lb.	.47 @	.48

Ducks—Mills are said to be satisfied with the business already booked. Although the past two weeks has not greatly added to the aggregate business, the looms are generally engaged far ahead, in some cases into April. Every grade of duck has felt the effect of the activity. It is still possible to find mills satisfied to take some business at price concessions.

Burlaps — Moderate inquiry featured the market during the past two weeks, and much business was placed, although some sellers would not accommodate themselves to the buying ideas of those disposed to trade. There was said to be bearishly inclined factors among bazaar speculators, while the situation in Calcutta continued to be dominated by strong influences.

SHEETINGS

40-inch	2.50-yard	yd.	.14	@	—
40-inch	2.85-yard	yd.	.12½	@	.12¼
40-inch	3.15-yard	yd.	.13½	@	—
40-inch	3.60-yard	yd.	.11¾	@	.12
40-inch	3.75-yard	yd.	.10¾	@	—
40-inch	4.25-yard	yd.	.09	@	—

DUCKS

Belting	lb.	.38 @	.38½
Hose	lb.	.38 @	.38½
Enameling	lb.	.40 @	.45
Shoe Ducks	lb.	.41 @	.46
Single filling	lb.	.17½ @	.19½
Double filling	lb.	.20 @	.21½

BURLAPS
(Carload Lots)

7½-ounce	40-inch	8.90 @	8.95
8 -ounce	40-inch	9.25 @	9.30
10 -ounce	40-inch	11.55 @	11.60
10½-ounce	40-inch	11.80 @	11.90

TIRE FABRICS

OF EVERY DESCRIPTION

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FABRICS TO SPECIFICATION

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Rubber Working Machinery
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FABRICS—Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.
H. Frank Jones
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FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.
New England Southern Mills
LAWRENCE & CO.
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Uniformity, reliability, cleanliness.
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THE MARKET PLACE Section Continued on Second Page Following.

Reclaimed Rubber

NEW YORK, Dec. 15, 1925

Conditions in the market have changed but little in the last two weeks. Demand continues unbated; in fact, reclaimers find it so difficult to fill all orders, that they have resorted to alloting production to various consumers, making as fair a division as possible against existing contracts. New customers, who are continually inquiring for reclaims, find they can only count on very small quantities. In view of the excellent domestic demand, which is taking all that can be produced, export inquiries have been practically neglected. Prices are quotably unchanged.

Friction (Uncured)			
No. 1	lb.	.70 @	.75
No. 2	lb.	.55 @	.60
High Tensile Black			
Super-Reclaim No. 1	lb.	.35 @	.36
" " No. 2	lb.	.20 @	.21
Shoe			
Unwashed	lb.	.10¾ @	.11¼
Washed	lb.	.13¾ @	.14¼
Tube			
No. 1 (Floating)	lb.	.30 @	.32
No. 2 (Compounded)	lb.	.20 @	.22
Tires			
Black unwashed	lb.	.11¾ @	.12
Black, washed	lb.	.12¾ @	.13
Black, selected tires	lb.	.13 @	.13¼
Dark Gray	lb.	.16½ @	.17
Light Gray	lb.	.18 @	.19
White	lb.	.25 @	.26
Truck, Heavy Gravity	lb.	.11 @	.12
" Light Gravity	lb.	.12¼ @	.12½
Miscellaneous			
Mechanical Blends	lb.	.09 @	.10
Red, High Grade	lb.	.24 @	.25

Scrap Rubber

NEW YORK, December 15, 1925

During the past fortnight the situation in the scrap rubber market remained practically unchanged. Dealers are only buying to fill deliveries under old contracts; and reclaimers seem to continue to stay out of the market. The current level of prices is not encouraging reclaimers to buy large quantities. The smaller dealers, especially, are believed to be waiting for higher prices.

Auto tire peelings		.02½ @	.02¼
Standard White auto	ton	40.00 @	45.00
Mixed auto	ton	26.00 @	28.00
Bicycle tires	ton	15.00 @	17.00
Clean solid truck tires	ton	55.00 @	60.00
Boots and shoes		.02¼ @	.02½
Arctics, untrimmed		.01 @	.01¼
Arctics, trimmed		.01½ @	.01¾
Inner tubes, No. 1		.11 @	.11½
Inner tubes, No. 2, compounded		.10 @	.10¼
Air Brake Hose	ton	20.00 @	22.00
Rubber hose	ton	15.00 @	17.00

Crude Rubber

CRUDE DROPS 10c

New York, Dec. 16, 1925.

The first really sharp break in crude rubber since August took place today, when a flurry of selling and London weakness sent prices down 10 cents from the $1.00 closing price of yesterday to 90 cents today. Dealers report no buying interest in evidence at this time and indications are that the bottom of the market has not yet been reached.

NEW YORK, Dec. 15, 1925

On the 10th, following a reaction in London toward easier levels, New York also dropped off, exceeding the London decline by a small margin. A consistent lack of buyers, either in the factory trade or among local dealers, continued. Sellers did not appear to be very anxious for business. The condition of the market was generally taken to indicate the approach of lower levels, although holders were not sufficiently convinced of fundamental weakness to become aggressive sellers.

The market again dropped the next day, due to lack of support. All positions shared in the decline, spot falling to $1.03 sellers on ribs, with Jan./March at $1.01 and April/June down to 99 cents. Even at the lower levels there were no buyers, and it seemed that the end of the decline was not in sight.

A slight recovery featured the market at the close of the week. Apparently the recent declines were sufficient to make the market attractive to some buyers, for there was considerable bidding in which consumers played only a minor part.

The market sagged at the opening yesterday and all positions broke sharply to levels lower than those prevailing at any time thus far during the month. Spot ribs were offered at $1.03 at the close, with buyers around $1.02. December could be had at the same level. Jan./March was offered at $1.01½, showing a fairly good recovery from the low point of the day. The fact that consumers are not supporting the market to any extent is said to be the reason for the recent sharp break in values.

NEW YORK MARKET

Plantations—			
Ribbed Smoked Sheets			
Spot	1.00 @		1.01½
December	1.00 @		1.01
January	.98 @		.99½
Jan./March	.96½ @		.98
April/June	.94 @		.95
First Latex, crepe spot	1.01 @		1.02
Amber Crepe, No. 2, spot	.96 @		.98
" " No. 3	.94 @		.96
" " No. 4,	.93 @		—
Brown Crepe, Rolled	.93 @		—
" " Clean, thin	.96 @		—
" " Specky	.94 @		—
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.94 @		.96
" Medium	.87 @		—
" Coarse	.68 @		.70
Islands, Fine	.79 @		.81
Acre Bolivian, fine	.93½ @		.95
Tapajos, fine	.86 @		.88
Cut Beni Bolivian, fine	.88 @		.90
Caucho Ball—			
Upper, shipment	.70 @		—
Centrals—			
Corinto, scrap	.68 @		.69½
Esmeraldo, sausage	.69 @		—
Guayule, w and d	.78 @		—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Kassai, Prime Red	Nominal		
Balata—			
Block, Columbia	.57 @		—
" Cuidad	.63 @		—
Surinam, sheet	.75 @		.76
Gutta Percha—			
Siak	.22 @		.24
Red Macassar	3.50 @		—
Chicle—			
Mexican, Yucatan	.58 @		.68

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	51 d
December	51
January	49½
Jan./March	48¾
April/June	45½

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	48⅝ d
December	48⅝
Jan./March	46½
April/June	43⅜

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50 to 90 Per Cent Recovery
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LIQUID RUBBER for Frictions, Cements and Tapes;
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TAR—PINE, RETORT, KILN
All grades for the rubber manufacturer.
Pensacola Tar and Turpentine Co.
Gull Point, Florida

ZINC OXIDES — Including KADOX and "Albalith."
The New Jersey Zinc Sales Company
New York Pittsburgh Chicago
Cleveland San Francisco

CHEMICALS & COMPOUNDING INGREDIENTS

Accelerators — Colors — M.R. — Compounding Ingredients
Softeners — Vulcanizing Ingredients — Rubber Substitutes

NEW YORK, December 16, 1925—Conditions as reported by leading factors in compounding materials show little change from previous statements. Demand for accelerators, zincs and blacks continue strong with a higher price tendency noted in the blacks. Contracts for 1926 are being consummated at a fast rate and it appears that rubber manufacturers are preparing for a big year. A shortage of spot stocks on a number of materials is causing some apprehension and revisions of compounds are in order. The year just ending has been very satisfactory and 1926 is expected to be even better. Quotations follow:

ACCELERATORS

Organic			
Aldehyde ammonia, crystals	lb.	$ .90 @	.93
Aniline oil, drums	lb.	.17 @	.17½
Di-Ortho-Tolylguanidine	lb.	1.10 @	1.13
Diphenylguanidine	lb.	.95 @	.98
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42½
Grasselerator 102	lb.	.80 @	.82
Grasselerator 552	lb.	4.80 @	5.00
Hexamethylene-tetramine	lb.	.80 @	.82½
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	—
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.25 @	.32
Triphenylguanidine	lb.	.70 @	.75
Tuads	lb.	4.50 @	5.00
Vulcone	lb.	.75 @	.79
Zimate	lb.	5.00 @	—
Inorganic			
Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.11¾ @	.12¼
Lime, superfine	lb.	.01½ @	.02
Magnesia, calcined, light	lb.	.24 @	.25
extra light	lb.	.40 @	.45
heavy	lb.	.04 @	.06½

COLORS

Blacks			
Arrow "Aerfloted"	lb.	.09 @	.13
Bone Black	lb.	.05½ @	.11
Carbon "	lb.	.08½ @	.12½
Drop "	lb.	.07½ @	.14
Ivory "	lb.	.12 @	.45
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blues			
Cobalt	lb.	.21 @	.26
Prussian	lb.	.34 @	.35
Ultramarine	lb.	.08 @	.35
Browns			
Iron oxide	lb.	.02¼ @	.06¼
Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06
Vandyke, domestic	lb.	.03 @	.03½
Greens			
Chrome, light	lb.	.28½ @	.30
medium	lb.	.30 @	.32
dark	lb.	.31 @	.34
commercial	lb.	.09 @	.10
Cromium Oxide, bbl.	lb.	.35 @	—
Reds			
Antimony crimson, 15/17 F.S.	lb.	.43 @	.45
sulphur free	lb.	.46 @	.49
golden, 15/17 F.S.	lb.	.17 @	—
pentasulphide, pure,	lb.	.35 @	.38
15/17 F.S.	lb.	.33 @	.36
red sulph. 15-17F.S.	lb.	.16 @	.20
Indian English	lb.	.11 @	.15
Oximony	lb.	.13½ @	—
Para toner	lb.	.90 @	1.00
commercial	lb.	.13½ @	.14½
Red oxide, reduced	lb.	.04 @	.12
pure	lb.	.11 @	.15
Toluidine toner	lb.	1.85 @	2.10
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.50 @	1.55
domestic	lb.	.15 @	.25
Whites			
Albalith	lb.	.05⅞ @	.06¼
Aluminum bronze		.55 @	1.20
Lithopone, Akcolith	lb.	.05⅝ @	.06
Lithopone, Azolith	lb.	.05⅝ @	.06¼
Zinc Oxide—American Process XX red	lb.	.07½ @	.07¾
Kadox, black label, kegs	lb.	.10⅝ @	.11¼
blue " " "		.09⅝ @	.10⅛
red " " "		.08⅝ @	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.07 @	.07½
Zinc Oxide—French Process White seal	lb.	.12¾ @	—
Green seal	lb.	.11⅛ @	—
Red seal	lb.	.10⅛ @	—
Yellows			
Chrome, light		.18 @	.20
dark and medium	lb.	.18 @	.20
Cadmium Sulphide	lb.	1.20 @	1.50
Ocher, French medium	lb.	.03¼ @	—
domestic	lb.	.01¾ @	.02½

COMPOUNDING INGREDIENTS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16½ @	.17
Ammonia carbonate	lb.	.17½ @	.19
Asbestine	ton	14.50 @	18.50
Barium carbonate	ton	54.00 @	56.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color, ton		12.00 @	18.00
Western prime white ton		22.00 @	23.00
imported	ton	27.00 @	34.00
Basofor	lb.	.04½ @	—
Blanc fixe dry f.o.b. works	lb.	.03¾ @	.04
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	ton	35.00 @	38.00
Chalk, precip., extra light	lb.	.04 @	.04¼
heavy	lb.	.03¼ @	.04
Clay, China, domestic	ton	15.00 @	25.00
Dixie	ton	20.00 @	35.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Langford	ton	12.00 @	22.00
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.11 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Infusorial earth, powdered	ton	23.00 @	25.00
bolted	ton	15.00 @	20.00
Liquid latex	gal.	3.00 @	—
Magnesia, carbonate	lb.	.10½ @	.11
Mica, powdered	ton	65.00 @	80.00
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.81 @	—
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
gilder's bolted	cwt.	1.25 @	1.35
English cliffstone	cwt.	1.50 @	—
Paris whiteAmerican	cwt.	1.25 @	1.50
Quaker	ton	13.00 @	15.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	—
Hydrocarbon, Hard	ton	29.00 @	—
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids			
Acetic, 28%	cwt.	3.12 @	3.37
Cresylic, 97%	gal.	.59 @	.62
95%		.57 @	.60
Muriatic, 20%	cwt.	.90 @	1.00
Nitric, 36 degrees	cwt.	4.75 @	5.00
Sulphuric, 60 degrees	ton	10.00 @	11.00
66 degrees	ton	14.00 @	15.00
Tartaric, crystals	lb.	.29 @	—
Alkalies			
Caustic soda, 76%	cwt.	3.20 @	—
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½
Oils			
Castor, No. 3 bbls.	lb.	.14½ @	—
Corn, crude, bbls.	lb.	.11¾ @	.12
refined	lb.	.12½ @	—
Cottonseed, crude		.09 @	—
Glycerine, C.P. drums	lb.	.25 @	.30
Linseed, Raw C.L.bbl.	gal.	1.21 @	—
Liquid Rubber	lb.	.12 @	—
Palm, Lagos		.09¼ @	—
Niger	lb.	.09 @	—
Peanut, domesticcrude	lb.	.12 @	—
Petrolatum, white		.10⅞ @	.11
amber		.03⅝ @	.03¾
dark amber	lb.	.03⅜ @	.03½
Pine, steam distilled	lb.	.60 @	.65
Rapeseed, refined	gal.	.93 @	.95
blown	gal.	1.10 @	—
Rosin, first rectified	gal.	.85 @	—
second rectified	gal.	.90 @	—
Soya Bean, crude		.13¼ @	.13½
Synthecite		.06 @	—
Tar, commercial	gal.	.30 @	.32
Resins and Pitches			
Parra M.R.	lb.	.06 @	.07
Tar Retort	bbl.	15.00 @	15.50
kiln burned	bbl.	15.00 @	15.50
Pitch, Burgundy	lb.	.06 @	.06½
coal tar	gal.	.05½ @	.06
pine	bbl.	6.50 @	9.50
Rosin, grade K	bbl.	15.50 @	—
Solvents			
Alcohol denatured, No. 1 bbls.	gal.	.60½ @	.64½
Benzol, 90%	gal.	.28 @	.30
pure		.32 @	—
Carbon bisulphide	lb.	.06 @	.07
tetrachloride	lb.	.06¾ @	.07
Dimethylaniline	lb.	.31 @	.33
Motor gasoline, steel bbls.	gal.	.17 @	—
Naptha, V. M. & P.	gal.	.14¾ @	—
Toulene	gal.	.31 @	—
Turpentine, spirits	gal.	1.04 @	1.05
wood	gal.	.90 @	.92
Waxes			
Beeswax	lb.	.55 @	.65
Carnauba, No. 1	lb.	.50 @	.51
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhite, A.M.P.	lb.	.05⅝ @	.05¾
Yellow A.M.P.	lb.	.05½ @	.05⅝
Sweet wax	lb.	.12 @	—

SUBSTITUTES

Black	lb.	.08½ @	.15
White	lb.	.10½ @	.17½
Brown	lb.	.09 @	.18
Brown factice	lb.	.10 @	.16
White factice	lb.	.10½ @	.17½

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18 @	.20
Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.06 @	—
Sulphur flour Superfine, bags	cwt.	2.20 @	2.50
" bbls.	cwt.	2.60 @	2.90
100% pure, refined, bags	cwt.	2.35 @	2.90
bbls.	cwt.	2.90 @	3.15

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EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

STANDARD METHODS OF CHEMICAL ANALYSIS. Edited by Wilfred W. Scott, Sc.D., Professor of Analytical Chemistry, University of Southern California. In Two Volumes. Volume One—The Elements. Fourth Edition. Illustrated. 748 pp. and Index. D. Van Nostrand Co., 8 Warren St., New York. Cloth, $6.00.

This book, which is intended as a manual of analytical methods and general reference for the analytical chemist and the advanced student, is a compilation of carefully selected methods that have proven of practical value. Although the subjects have been presented with sufficient detail to enable one with an elementary knowledge of analytical processes to follow the directions, the author has avoided lengthy exposition, theoretical dissertation and experimental data.

Each chapter on the elements is arranged according to physical properties, including atomic weight, specific-gravity, melting and boiling-point and oxides; detection; estimation; preparation and solution of the samples; separations; and methods, grouped under gravimetric and volumetric methods. In many of the chapters methods for determining traces of the element are given and the subjects are concluded by typical examples of complete analysis of substances containing the elements. Several processes are generally given to afford the opportunity of selection for particular cases and for economical reasons where special reagents may not be available.

Although the combined acid radicals are taken up with the elements to which they may be assigned, a chapter is devoted to the more important of the acids in their free state. This chapter may be found with the other special subjects in the second division of the book which contains chapters on water, paint, alloys, coal, cement, gas and such subjects as are best classed in sections apart from simple substances dealt with in the first portion of the work.

The last portion of the book is devoted to tables of the more important arithmetical operations, designed to assist the analyst to greater accuracy in calculation, as well as to relieve him of needless expenditure of time and energy. A list of the majority of publications consulted is given in alphabetical order in the appendix.

* * *

STANDARD METHODS OF CHEMICAL ANALYSIS. Edited by Wilfred W. Scott, Sc.D., Professor of Analytical Chemistry, University of Southern California. In Two Volumes. Volume Two—Special Subjects. Fourth Edition. Illustrated. 802 pp. and Index. D. Van Nostrand Co., 8 Warren St., New York, Cloth, $6.00.

A chapter devoted to rubber, written by L. E. Salas, is contained in this second volume. The chapter includes the examination of raw rubber, of fillers, bitumen and pitch, rubber waste and reclaim, compounding materials (fillers and modifiers), solvents, vulcanized rubber, gutta percha and balata and a standard method for the analysis of rubber goods which has been approved by the Supervisory Committee on Standard Methods of Analysis, American Chemical Society.

Other chapters of interest to the rubber chemist are those on fixed oils, fats and waxes; pigments; examination of bituminous substances; methods of analysis of fuels; and that on miscellaneous subjects, which includes methods for the analysis of many compounding ingredients used in the rubber industry.

* * *

TWENTY-FIVE YEARS OF RUBBER CHEMISTRY. By William C. Geer, The B. F. Goodrich Co., Akron. Presented before the Division of Industrial and Engineering Chemistry at the 69th Meeting of the American Chemical Society, Baltimore, Md., April 6-10. Published in *Industrial and Engineering Chemistry* for October.

The first quarter of the Twentieth Century has marked a phenomenal progress in the history of all branches of the rubber industry. At the beginning of the century rubber factories were few and the field of chemical research was limited. Today this line of research is one of the most important departments of the industry.

The vulcanization of rubber, or its combination with sulphur, has commanded chief interest. Few commercial products but demand this process. Next to this discovery in importance have been the accelerators, the substances that speed the time and lower the temperature at which sulphur is added to rubber. Having its inception in the discovery by a chemist in 1906 that aniline oil and other nitrogenous organic chemicals, when added to mixtures of rubber and sulphur, shortened the time of vulcanization, the accelerator has expanded in type until today it is possible to add sulphur to rubber and thus vulcanize it at temperatures ranging from slightly above that of the room up to those which radically affect the aggregation of the rubber hydrocarbon.

The Rubber Situation

(Continued from page 200)

tations may be facilitated, the Department of Commerce, under the authorization and instruction of Congress, has made a survey of the possibilities of introducing a plantation rubber industry in territories other than those where it is now centered. The results of that survey is being made public in five major reports covering different parts of the world. The first of these deals with the Middle East, a second with the Philippines, a third with the Amazon Valley. Two under preparation but not yet issued deal with Middle America and Africa. I will not bother you with the details of these reports since many of you have no doubt carefully digested the ones which have been delivered, but it will suffice to say that all of them deal frankly with the advantages and disadvantages as they were found in the different territories. In all of the territories some very favorable areas were revealed. The obstacles in many cases are those which may be removed. The object of the survey was not to show particular plantation sites in which investment could be made safely without further investigation, but it was hoped that the reports of the public investigators would be useful in guiding prospective investors to the particular regions worthy of their closer examination.

Reaches to Final Consumer

The interest of the Department of Commerce reaches beyond the rubber planter, beyond the manufacturer and the distributor to the final user of rubber goods. It is in his enjoying the utmost convenience and comfort from each commodity at the most reasonable price that we are interested. So it is that my interest in relieving the present situation and in providing relief for the future situation is really that of giving rubber a chance to do its utmost in making our lives more convenient, more comfortable, in every way to raise our standard of living. Here in New England, it must be apparent to you that the present price of crude rubber is limiting its use in certain directions, is causing its almost complete withdrawal from certain channels in which it could well serve the public. Our desire is to see this most adaptable of all commodities freely available to participate in every field of progress in the next century as it has participated in the last.

Hold Two Reviews Under This Story

A hundred years ago, Thomas Wales introduced to the American public comfort in footwear waterproofed with rubber. Given new opportunities through the work of Charles Goodyear, in which thousands of other directions has it proven useful in this intervening century. In the decades to come, let us do all we can in any program to give rubber a chance to play an increasingly important part in every development of our individual and collective lives.